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ORIGINAL COMMUNICATIONS.

CONTRIBUTIONS TO THE PATHOLOGY AND TREATMENT OF CHOLERA.

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INTRODUCTORY REMARKS.

In my previous contributions to The London Journal of Medicine, on the Pathology and Treatment of Tropical Fevers, the relation between the algide stage of their intermitting and remitting forms, and that of Cholera, was briefly noticed. The analogy of the phenomena accompanying the reaction and hot stages of these fevers, with the febrile or consecutive stage of Cholera, was also brought under consideration, and stated to be referable to an increased flow of blood through the spinal marrow and its dependent nerves, similar to that which seems to be associated with the symptoms of the hot stage in both diseases. The extraordinary general similarity also of symptoms characterizing the different stages of Cholera, to those attending certain modifications of fever, could scarcely pass unobserved, by any one who had opportunity, within the tropics, of becoming familiar with such affections; nor could the striking fact remain unheeded, that attacks of endemic Cholera happened, like intermittents, most commonly at the changes of the moon, and prevailed, along with these fevers, in the same locality. Such manifest resemblances could not fail in impressing the mind with a belief, that if the relation of these diseases be not constant, it at least arises from the same external atmospheric influences which change the human organism from a state of health to disease. So forcibly had facts brought this conviction to my mind, that in my Cholera reports, on the disease at Kaira, in 1819, addressed to Dr. S. Meek, then superintending surgeon of the Gujerat division, I pointed out the apparently intimate connexion of the two; stating, that several cases had come under my observation, where Cholera and intermittent fever alternated with each other. In 1820, when again reporting to Dr. Jukes, I brought to his notice, that the greater number of Cholera attacks among the prisoners in the jail of Kaira, happened at the lunar periods; and

how, in the middle of April of that year, the *karkoon*, or native revenue writer, of the town of Neriad, in the province of Gujerat, had reported, that for three or four days, about the period of the new moon, thirty or forty people were attacked daily by Cholera, and that, soon after, the number of attacks decreased to six or seven. In subsequent annual reports to medical authorities in India, particularly those of the European General Hospital, for the years 1838-39, I had occasion to repeat the same observations and opinion; and am now only anxious to record my having done so, as Dr. Chambers, in two admirable and luminous lectures on Cholera, delivered to the students at St. George's Hospital, and lately published in the *Lancet*, has proved with great ability the existence of a disease, prevalent in London about 1680, and the following years, identical with the Asiatic malady; and which had a common origin with epidemic febrile diseases, and others of an intermittent type, arising from miasmata, and ordinarily affecting the inhabitants of this city. The delineations of this disease, quoted by Dr. Chambers, are found in Dr. Morton's *Treatise on Fevers;* and both these, and the descriptions of Cholera, by medical authors of antiquity, must satisfy us of the truth, that the so-called Asiatic Cholera, which has of late years prevailed in Europe, was long previously known to practical observers, and cannot be dated as a new disease from the reputed epoch of its birth in 1817. More modern writers in India, as Paisley, Girdlestone, and Curtis, have recorded the prevalence of this disease, which broke out with great severity in 1695, while Aurangzeb's army was besieging Beejapoore. The Persian author, who records the circumstances as an eye-witness, states, "that amidst the calamities of a famine, which afflicted the country the previous year, a pestilential fever and diarrhœa attacked the people in camp; and by little and little spread through the whole with such fatality, that no one calculated on his existence for a single hour, and the bazaar transactions were only carried on for ready money."

But if both diseases appear so closely connected in their origin, they are not less intimately related to one another by their phenomena during life, than by their post-mortem appearances. Cholera, like fever, is not exclusively a disease of either the vascular or nervous system; and if the post-mortem vascular appearances of particular organs be not identical in both, they seem only to differ in degree. Those of Cholera are what we might expect to find in algide intermittent, terminating fatally soon after the accession of the cold stage, had we opportunities of tracing them; but those of fever are more of secondary result, following the reaction of the central vascular organs to remove injuries of the peripheral ones, by abnormal self-excitation of the blood, for the purpose of depuration, and restoration of the circulating fluid to health. It is only by viewing Cholera as allied to fever in its modifications, and progressive like it in its forms, that any well founded arrangement of symptoms can be made, or any rational method of treatment laid down, as applicable to its different stages. Such is the object of this paper; and without speculating on the origin and sources of the disease, I shall endeavour, for the present, to specify its modifications, and the most suitable system of treatment, founded on my own experience, and on that of others.

The following observations may be arranged under five heads, viz.—I. History of the disease, as observed at various times and places since 1818. II. Modifications; symptoms and stages considered collectively. III. Particular symptoms originating in the perverted functional action of individual organs. IV. Post mortem appearances and pathology. V. Treatment.

I. HISTORY OF THE DISEASE.

On my arrival at Bombay, the 2nd of August 1818, I was directed to do duty in the garrison of Tannah, under the then garrison-surgeon Dr. Jukes, whose excellent letter, descriptive of the Cholera as it appeared at that station, will be found in the well known Bombay Reports. I joined the garrison (then consisting of a wing of H.M. 89th, and of other European and native detachments), immediately after the advent there of the disease, on the 13th of August. It had travelled along the high-road of the Dekhan, from Nagpoor, Jaulnah, Aurungabad, Alunednagar, Seroor, and Poona, to Panwell,—a considerable village on the mainland, separated from Bombay by an arm of the sea. Between the latter and Bombay there is a constant communication, by means of boats, or by the more circuitous overland route of Tannah. On the 6th of August the disease broke out with great violence at Panwell; appeared at Bombay on the 9th or 10th; and at Tannah the 13th of the same month. Here, a naique, who had escorted the state prisoner Trimbuckjee Danglia from Seroor, was the first person attacked. By the 16th of the month, the disease at Tannah had become general, and as many as fifty or sixty deaths among the natives of the bazaar were reported daily. The epidemic continued to prevail both among Europeans and natives, and with greater or less violence, till the 19th of September, when it began to decline. From the time of its commencement to its disappearance, I carefully kept notes of the principal cases admitted into the hospital, or occurring among the natives of the bazaar and servants of the civil establishments; the modifications of the disease, the apparent utility or otherwise of remedies, and any peculiarity of symptoms, being in this manner minutely recorded. In the absence of such records, and of the leading characters of Cholera cases, whether of endemic or epidemic origin, we can seldom draw any accurate conclusions as to what may be the contingent, and what the constant conditions of the disease. Certainly, some of the peculiarities of the Cholera attacks then noted have not since come under my observation; and such differences may account for the greater utility of bloodletting at that time, and the greater confidence reposed in it as a remedy, either in India or in this country. These peculiarities and modifications of the epidemic Cholera of 1818, not being mentioned in Dr. Jukes' report, I will endeavour here briefly to detail them.

Most descriptions of the disease, as it appeared at that period, too exclusively appertain to its collapsed stage, when the blood and lungs have ceased to generate animal heat, and the powers of the secretory organs have almost completely failed. But before the occurrence of symptoms characterizing this well-marked period of the disease, there were premonitory ones of diarrhœa, with nervous depression and fits of transient excitement, accompanied by acute burning pain at the scro-

biculus cordis, a frequent irritable pulse, and somewhat augmented heat of skin. This first onset of the disease appeared both among Europeans and natives; and the blood drawn from either at this period, frequently threw up a thin sizy film. If nothing was done to arrest the progress of the attack, the burning paroxysmal pain at the stomach increased, and was followed by vomiting of white-coloured fluid; the diarrhœa became more urgent, and the alvine evacuations changed from a dirty yellow colour to that of rice water; the skin was cold, and covered with clammy perspiration; the pulse became more labouring and oppressed, accompanied by much vertigo, distressing languor, and craving thirst: the whole phenomena of this stage bearing a marked resemblance to those of congestive or asthenic remittent. Though the skin of many patients was cold and clammy to the touch, they nevertheless complained of being tormented with burning heat, and were affected by spasms of the extremities.

After these symptoms had existed for some time, without any appearance of reaction in the system, the pain at the scrobiculus cordis for the most part abated, or entirely ceased; the respiration became more oppressed; the arterial action more feeble; the skin corrugated and shrivelled; the eyes sunk in their sockets; the voice more feeble and scarcely audible; till at last, increasing coma and death terminated the patient's suffering. Such was the general mode of attack, and progress of the disease. Sometimes, however, the vomiting and pain at the pit of the stomach were the earliest symptoms, and were present for an hour or two before the purging commenced; at other times both vomiting and purging occurred without vertigo; and occasionally there was no pain of stomach complained of, unless when pressed by the hand, which created an inclination to vomit. The discharges from the stomach and bowels varied in appearance, being sometimes clear and serous; and at others, white and mucaginous, like rice-water. For the most part, the pulse was frequent, feeble, and irregular; but occasionally, it was excited and compressible, as in fever; and whenever this happened, there was less apparent determination to the head than usual. Total deafness was only present in one instance; and in another, the patient complained of a noise in his ears resembling rushing water. There were other symptoms which accompanied the several attacks, and which will be more fully enumerated when I come to consider the modifications and stages of the disease.

Such was its usual progress; but most of the patients were not brought for medical aid, until the stages of congestion and collapse had been fully developed. Generally, these stages ran their course progressively, and were sufficiently well marked; but sometimes, the earlier one of nervous depression was wanting, or so rapid in its transition to congestion and collapse, that its development was scarcely manifest ere it had passed into the final coma of the others. This form of Cholera has been not inappropriately named ganglionic apoplexy, being characterized by the following manner of attack. After some languor, and a little watery purging, having been present for six, eight, or more hours, the person attacked complains of severe burning pain at the pit of the stomach, accompanied by vertigo, and soon after falls down insensible; his respiration being feeble, his pulse oppressed, his

skin more or less cold, and his jaw spasmodically closed, though not so rigidly as to prevent their being opened by gentle force. This will be best illustrated by the following case. On the 26th of August, one of the revenue collector's peons went from his duty to dinner in apparently good health, excepting that in the morning he had been suffering from flatulency and pain at the stomach. While in the act of eating, he was seized with vertigo, and soon after fell down senseless, in which state he was carried to the house of the collector, where some ether and brandy were given to him. Dr. Jukes soon after saw him, and found his skin below the natural warmth, his respiration almost suspended, and his eyes fixed. A vein was opened in the left arm, which bled rather languidly; but as the vital action of the heart became a little renovated, another vein was opened in the right arm, from which the blood began to flow with considerable force. Soon after, the patient made several deep inspirations, his eyes regained their natural motion, and all the other organs seemed to resume their functions. About thirty ounces of blood were abstracted, fifteen grains of calomel were administered, and bottles of hot water applied to the feet and stomach. A copious perspiration speedily followed, and next day the patient was nearly well.

During the cold months, from the end of 1818 to that of February 1819, the Cholera disappeared, and little or no mention of it is made in the hospital reports. By this time, I had been removed from Tannah to Kaira, in Gujerat, and directed to do duty with a native regiment, the 2nd battalion 7th regiment of infantry. In the end of April, some sipahies belonging to a detachment of this regiment, stationed at Dubassa, were sent to the head-quarters at Kaira, where, soon after their arrival, several cases appeared, on the 4th of May, among the men of the regiment. At the same time, the men of the pioneer corps, stationed in the lines at Kuttenpoor, and in the immediate vicinity of the dragoon cantonment, were attacked by the disease, without having had any communication with the affected sipahies from Dubassa. The cases admitted were of a highly congestive character, running rapidly into fatal collapse, which seldom admitted of the abstraction of blood from the veins, even when the patients were in the hottest bath that could be borne; so that if a small quantity of blood were obtainable in this manner, it only hastened the fatal result. Opiates also seemed to increase the desire to sleep, and tendency to collapse. Nearly two-thirds of the cases admitted proved fatal: and many of them within five hours from the period of the attack. In all the severer cases there was a remarkable absence of the paroxysmal pain at the scrobiculus cordis, which distinguished the Cholera attacks of 1818. Most of the deaths happened among the pioneers, who not only occupied an unfavourable locality on the dragoon side of the river, but were greatly predisposed to Cholera affection, by the contingent causes of poor living and mental depression. The supernumeraries of the pioneer corps, to whom the urgency of military service in Cutch had given temporary employment during the cold weather, were brought down to Kaira for discharge, and were those who suffered most. They had no huts to shield them from the weather, and were continually exposed to the heat of the sun by day, and to the land wind by night. They were, with very few exceptions, Hindoos; who, from their abstemious and even penurious habits, are

well known to live on the cheapest food, of inferior nutritious qualities. Such habits, by predisposing the body to the unhealthy influences of other exterior conditions, particularly cold bathing after hard work, and in an excited state of the cuticular capillaries, seem to have borne no inconsiderable share in producing a disease of great malignity. The disease continued to prevail at Kaira, and in many of the neighbouring towns, throughout the hot weather, and disappeared, for a time, after the setting in of the rainy season in the middle of June.

In the succeeding year, 1820, it reappeared about the beginning of March, after having been prevalent for some time in the neighbouring villages of Nereiad, Mahmudabad, and Mandwa. The disease had travelled, as would appear, from Surat to Baroda, and thence to Kaira; having broken out at the former place some time about the end of December 1819, or beginning of January 1820. It made its first appearance there in Chilli Bey's dock-ship, and in the native lines, where the 2nd battalion 3rd regiment of native infantry was then stationed; attacked the men of this battalion, and prevailed also among the prisoners in jail. This regiment, soon after the appearance of the disease in Surat, marched for Baroda, and was severely attacked by it at the second halting-ground. It continued to affect the men of the battalion, but in a milder degree, along the whole line of march, and afflicted them more severely on their arrival at Baroda, where between fifty and sixty died out of a hundred cases. Some account of its prevalence at this station may be found in Dr. Kennedy's work on Cholera. It did not finally cease to prevail in the 3rd native infantry, till the regiment marched from the station and joined Colonel Barclay's force, then employed on the banks of the Run, where not a case occurred during all the hot weather, though the troops were kept constantly marching. On the 3rd native infantry going into Bhooj, in Cutch, about the middle of June, while the Cholera was raging there, it again severely suffered from the disease, which carried off Mr. Colegate, the assistant-surgeon of the regiment.

From this time, Cholera continued prevalent, at short intervals, in different parts of India; but as I had no opportunity of seeing any great number of cases till 1838, I kept no notes on the subject. While employed at this time, as surgeon of the European General Hospital, at Bombay, I admitted twelve cases of the disease in the months of July and November. Three of these proved fatal. All the attacks in July commenced with diarrhœa; which, after continuing several days, was followed by vomiting, coldness of the skin, collapse of countenance, and sinking of the circulation, as marked by a frequent feeble pulse. The gastro-enteritic affections seemed to be only modifications of the same disease; being characterized by pain at the epigastrium, diarrhœa, and sometimes vomiting, accompanied by a feeble pulse and vertigo, which increased as the purging diminished. The Cholera admissions for November happened at the time of the new moon; when the dew was falling, and the weather had become cold. Some cases of intermittent fever occurred at the same time. The sister of one of the Cholera patients who died, had irregular febrile symptoms; and the mother of both these, on being attacked by Cholera, also died in the beginning of the next month.

In 1839, thirty-three cases of Cholera were admitted, fifteen of which proved fatal, being 45.4 per cent. of deaths. The greater number of casualties happened during May; Cholera at this time being prevalent amongst the seamen of the ships in harbour. The men attacked on shipboard were generally sent to hospital in the last stage of the disease, and under most disadvantageous circumstances; having been exposed during the day to the influence of a burning sun, and at night to the land wind. Many of the admissions were of children born in the country, who had lost all pulse, and were in the last stage of collapse. Some of the successful cases were of the bilious kind, or of "hepatic erethism", marked by epigastric tenderness, and cramp of the abdominal muscles. The two diseases, "Bilious Cholera" and "Algide Cholera", are the same morbid states, differing only in degree: the former consisting of ganglionic irritation, and increased hepatic secretion, as the consequence of imperfect decarbonization of the blood; the latter of ganglionic and cerebro-spinal congestion, with endosmotic sero-mucous exhalation from the intestines, the result of impaired vitality of the blood.

I had no further opportunity of observing cases of Cholera, or of ascertaining the progress of the disease, till my removal from Bombay to Belgaum, as superintending-surgeon of the southern division. The troops serving in this division belonged to the Madras presidency; and almost every regiment which, during the years 1841 and 1842, had occasion to change stations, and to march along the extensive plain of deep black alluvial soil, from Kolapoor northwards to Bellary southwards, experienced severe loss in its ranks and among its followers, from Cholera, which was extensively prevalent, during these years, among the villages and in the districts included in the collectorates of Kolapoor, Belgaum, and Dharwar.

In the beginning of the former year, it broke out among the pilgrims assembled at Kolapoor, to celebrate the religious festival of "Kadar Ling-deo"; and from them spread, in February and March, into the neighbouring districts of Padshapoor, Uthnee, and Gokauk; having soon after become general in the collectorates already mentioned. In May 1841, the disease appeared with great severity at Kolapoor, among the troopers of the 5th Madras cavalry; the medical officer of the regiment deeming that its outbreak was, in part, connected with the filthiness and ill-ventilated state of the native huts in the cavalry lines. The progress of the disease indeed may have been connected with these causes; but long before its appearance in the lines at Kolapoor, it had been prevalent in the villages of the neighbouring districts, manifesting, in its progress from place to place, that it attaches itself to masses of the people assembled for the purpose of celebrating religious festivals, and can in this way be disseminated from person to person.

Whoever will take the trouble of investigating the information on this point, embodied in Table I (*see next page*), and will, by referring to a map of the country, trace the outbreak of the disease, and its progress from place to place, must, I think, be convinced of this fact, that Cholera of endemic origin, under a community of habits, and of atmospheric conditions, can become transmissible from locality to locality, and from the sick to the healthy, who breathe the same atmosphere in ill-ventilated apartments. Such is the fact, however, and one practically known in

TABLE I.—NUMBER OF PERSONS ATTACKED BY CHOLERA, AND OF THOSE RECOVERED AND DECEASED, WITH AND WITHOUT RECEIVING THE AID OF MEDICINE.

No.	Names of the Talooks.	Population.	Period the disease continued.	No. of persons attack'd	Received aid of medicine.			Received no aid of medicine.			Number attacked.			Remarks.
					Rec.	Died	Totl.	Recov.	Died.	Total.	Recov.	Died.	Total.	
1	Sumpgaon	59,329	April to Sept.	1,362	35	26	61	386	915	1,301	421	941	1,362	The disease commenced in Wuckoond, E. of Sumpgaon, and amongst travellers from Kulludghee.
2	Beedee	82,164	April to July	702	7	8	15	201	486	687	208	494	702	The disease commenced in Nichundee, E. of Beedee, and amongst the people who returned from the Jatra at Yellama.
3	Padshapoor	46,711	Jan. to Aug.	522	93	94	187	79	256	335	172	350	522	The disease spread into this Talooka, from the people who returned from the Jatra at Yellama and Kadar Lingdeo.
4	Chickoree	75,064	April to June	1,282	33	68	101	323	858	1,181	356	926	1,282	The people who went to the Jatra of Kadar Lingdeo, brought the disease into this Talooka.
5	Bagulkote	53,407	April to July	2,715	15	21	36	744	1,935	2,679	759	1,956	2,715	The disease commenced at Hippergee Zillah Kolapoor. At Kolapoor the disease first made its appearance in May 1841.
6	Badamee	56,639	April to July	1,557	48	79	127	336	1,094	1,430	484	1,173	1,557	The villagers of Mootulgherree went southward in search of labour; on their return they were attacked by the disease.
7	Uthnee	33,821	Mar. to June	1,816	102	130	232	534	1,050	1,584	636	1,180	1,816	The disease first broke out in Kabundkee, E. of Uthnee, and spread into the whole Talooka. In Uthnee alone, 681 persons were seized with Cholera during April.
8	Gokak	48,310	April to June	1,306	27	73	100	288	918	1,206	315	991	1,306	Disease broke out amongst the villagers of Chicknundee, from thence it spread into the Talooka. At Kolapoor about 1000 persons died in three weeks in April and May.
9	Pursghur	45,534	April to Sept.	900	46	65	111	204	585	789	250	650	900	The villagers of Bailsoor were first attacked; from thence it spread into the Talooka.
10	Hoongoond	50,649	May to June	827	0	5	5	241	581	822	241	586	827	The villagers of Somlapoor and Koodeehall were first attacked.
	Total	551,628		12,989	406	569	975	3,336	8,678	12,014	3,742	9,247	12,989	

BELGAUM, 31st December, 1842.

India, that, whenever a native regiment, attacked by Cholera on the march, is allowed, immediately after arrival at a new station, to occupy the regimental lines of native huts, its men and followers continue to suffer for a long time from the disease. It is therefore usual to encamp the infected regiment outside the cantonment, in some dry and healthy locality; and not to allow the men to occupy their huts till all traces of the disease have disappeared. Such precautions are, I think, attended with the best possible results in preventing the spread of Cholera: and even where encampments of men have been attacked by it on the deep black alluvial soil, a change of position to the hard, dry, and ferruginous laterite formation, in the immediate neighbourhood, appeared to be followed by equally happy results.

The Cholera was again prevalent in 1842, and raged at the same time in Bombay, as may be seen by reference to Table II. It increased gradually from the beginning of the year till the hot, humid months of May and June, when the disease reached its climax. The influence of a moist and hot atmosphere in diminishing the cutaneous exhalation, and increasing the absorbent function of the skin, seems favourable to the operation of malarious causes; to which, and the negatively electric state of the atmosphere, many of the endemic attacks of Cholera, which annually occur in these months, are clearly traceable. It was in this same year, I think, that the 23rd Madras native infantry, on its march to Dharwar, was severely attacked by the disease on the banks of the Toombhoodra river, and lost several of its European officers. But enough has been already related relative to the history of the disease, and in illustration of the circumstances and conditions of the *endemico-epidemic* causes, which render it prevalent.

Table II.—Statement showing the number of persons reported to have died of Cholera, and of those who received Government medicines, with the result, in the island of Bombay (estimated population, 235,000), from 7th February to 31st December 1842.

Months.	Recovered.	Died.	Result unknown.	Total.	Total reported to have died.
February	—	—	—	—	2
March	—	—	—	—	100
April	—	—	—	—	142
May	—	—	—	—	2,391
June	—	—	—	—	851
July	—	—	—	—	292
August	—	—	—	—	283
September	—	—	—	—	265
October	—	—	—	—	128
November	547	161	—	708	740
December	2,144	390	27	2,561	912
Total..	2,691	551	27	3,269	6,106

(To be continued.)

CASE OF A TUBE IMPACTED IN THE LACHRYMAL DUCT FOR NEARLY NINE YEARS.

By W. WHITE COOPER, Esq., F.R.C.S., Senior Surgeon to the North London Infirmary for Diseases of the Eye, etc.

A LADY, sixty-one years of age, consulted me in March 1847. She stated that, nine years previously, whilst in France, she was attacked with inflammation of the right lachrymal duct, and an abscess formed, which was opened; after a time the wound healed, but left the passage impervious. The duct was therefore pierced with a trochar, and a gold tube introduced by a French oculist. The operation was attended with considerable suffering from the size of the tube, which required much force to place it in position; irritation followed, but gradually subsided under the use of fomentations. The skin healed over the tube, and for nearly six years it answered well; but at the expiration of that time, the patient became annoyed by deep-seated pain in the region of the duct, and an offensive discharge from the right nostril. After these symptoms had existed six months, an abscess formed and burst externally; the wound did not heal, but constantly gave exit to an abundant fœtid discharge, which also flowed from the nostril. An eminent oculist at Paris was consulted, who examined the parts, and arrived at the conclusion that the tube was no longer in the duct, and that the symptoms arose from necrosis of the bone. He recommended frequent syringing with an infusion of walnut leaves, and introduced a silver style into the duct. The discharge, however, continued, and an unhealthy, unsightly sore formed at the corner of the eye, which after a time caused partial eversion of the lower lid. For three years this continued, rendering her extremely miserable, for the discharge was so offensive that she was quite debarred from society. During this time she consulted two gentlemen of eminence in London, who coincided in opinion with the Parisian oculist, that the tube had escaped from the duct.

On examination, a puckered granulating sore, about the size of a fourpenny piece, marked the situation of the orifice; a fine probe passed with facility into the nose, and in its passage struck against a hard substance which had been considered as denuded bone. From no pain or sensation being excited by the strokes of the probe, I was inclined to the belief that the substance was metallic, and that the tube was in the duct as asserted by the patient, although I could not, with the utmost care, discover its edge.

The granulations bleeding profusely, and the patient becoming excited, further proceedings were deferred until the following day.

The duct was then cut down upon, and on the wound being dilated, the edge of the tube was clearly seen at the depth of full a quarter of an inch; with some difficulty it was grasped with a pair of strong forceps, but nearly as much force as I was capable of exerting was required to pull it out, so firmly was it impacted. Considerable hæmorrhage followed, but was arrested by cold water and the injection of a solution of alum. The patient was directed to syringe the duct thrice daily with a solution of hypochlorite of soda, and, after four days, the

offensive discharge had entirely ceased. On the fifth day a small style was introduced, and at the expiration of a fortnight the sore had healed; a slight eversion of the lid, with a puckered indentation, only remaining to indicate its situation.

Remarks. Heister was, I believe, the first who proposed to cure fistula lachrymalis by the introduction of a canula into the nasal duct; his plan was to perforate the os unguis, place the canula in position, and allow the skin to heal over it. This proceeding was unnecessarily severe, but a great improvement upon the barbarous surgery of his predecessors. Upon it, Mr. Wathen again improved, by inserting the canula into the duct without injuring the bone; at first the prospects of success were most flattering, but, after a time, the plan was found open to many objections. The tubes shifted their position in the canal, sometimes rising too high, at other times sinking too low. A modification of the form of the tubes was proposed by M. Pellier, a French oculist, but experience proved them to have equal disadvantages with the originals, consequently the persistent tubes were generally abandoned in this country for the style, which, whilst it permits the passage of the tears by its side, is smaller than the canula, creates less irritation, and can be withdrawn and replaced with facility, a proceeding which ought never to be neglected beyond a week; it is better, indeed, to remove it every fourth day, to syringe the duct with a weak solution of alum, or if there be offensive discharge, with diluted liquor sodæ chlorinatæ—one part to fifteen of water—to wash the style and replace it. The surgeon should explain how this is to be done, and a little practice will enable any patient to manage it with facility.

On the continent, the old plan of the canula was extensively used by Dupuytren, and is still adhered to by some foreign oculists. The case above related offers a fair example of the consequences to be expected from its use. For a time all goes on smoothly enough, and the patient is flattered with hopes of a perfect cure; but, sooner or later, irritation is set up, and unless the tube be removed, it becomes buried in granulations, is firmly impacted in the canal, and caries of the bones forming its boundaries, with all the attendant miseries, will be the probable result.

It is very important, when consulted by a patient labouring under obstruction of the lachrymal duct, to ascertain the condition of the mucous membrane of the nostril. This, especially in strumous subjects, will often be found thickened, congested, and ulcerated. The obstruction to the passage of the tears may, in such a case, arise either from the closure of the lower orifice from this condition of the schneiderian membrane, or from the extension of the morbid changes into the duct itself. Under these circumstances, much benefit will be derived from the use of an ointment composed of three parts of the unguentum hydrargyri ammonio-chloridi, to one part of oil of almonds. This should be applied with a camel-hair brush, and well swept over the membrane of the nostril. A lotion of four grains of nitrate of silver to an ounce of distilled water, applied in the same manner, is also frequently of great service. But with such measures, careful attention to the general health should be combined.

On several occasions I have seen much embarrassment caused during

the operation for fistula lachrymalis, by the difficulty of finding the orifice of the duct with a probe or style, after the sac has been opened and the knife withdrawn. This will be obviated by making the incision with a narrow-bladed knife, which should be passed into the mouth of the duct; a fine probe should then be slid along the blade into the duct, and the knife withdrawn. The probe will at once guide the style into the duct, and the operation be completed.

ON THE DISCUSSION RESPECTING CHLOROFORM,

IN THE ACADÉMIE DE MÉDECINE OF PARIS.

By JOHN SNOW, M.D.

The original conclusions arrived at by the Commission appointed to investigate the fatal case at Boulogne, and the general question of the safety or danger of chloroform, were ultimately adopted by the Academy, with very slight alteration (as was shown in the abstract of the proceedings in the last number of this Journal), but not till they had met with a very stout opposition, more particularly from MM. Blandin and Jules Guérin. With the first conclusion, which acquits chloroform of the death of M. Gorré's patient, I cannot agree, any more than these gentlemen, and a number of other speakers. The Commission commenced their investigation, with the assertion that chloroform always produces intoxication and insensibility before death; and their reporter, M. Malgaigne, adheres to their opinion to the end, in opposition to all contrary evidence, and even denies that chloroform can cause death by its direct action, and especially by poisoning.

Now the truth is, that the vapour, when inhaled of a certain strength, is just as sure to cause sudden death without premonitory intoxication or insensibility, as it is to cause its ordinary beneficial effect when inhaled of another strength, or to fail altogether of its desired action, if diluted beyond a certain point. I have several times made animals—small birds, mice, and rabbits—breathe air saturated with vapour of chloroform at the ordinary temperature of the atmosphere, and the consequence has always been, that after attempting for a few seconds to escape from the capacious jar in which they were inclosed, they suddenly exhibited signs of distress, and died without any interval of intoxication or insensibility, in periods varying from less than half a minute to a minute after their first exposure to the vapour. In these experiments, not more than one-sixth part of the air was displaced by the vapour diffused through the remainder. The vapour of chloroform never acts, as supposed by the Commission, by excluding the air, and so producing asphyxia. This is physically impossible. The same quantity of vapour of ether in the air causes a much slighter effect; and, of some vapours, a scarcely appreciable influence, even when the air is quite saturated with them. Chloroform acts by its narcotic properties alone; and when inhaled of the strength employed in the above experiments, it paralyzes the action of the heart at the same time as the respiratory movements.

In two experiments of this nature previously related,[1] I found the blood in the lungs still florid, immediately after death.

In the case at Boulogne, artificial respiration was performed for upwards of an hour after death, and with force enough to cause permanent dilatation of the air cells. At the subsequent inspection of the body, air was found in the pulmonary veins, in the heart, in the right carotid artery, and in the veins generally; a little frothy blood being found at the orifice of the vena cava. The conclusion of the report which has been adapted by the Academy, is, that death was probably caused by this mixture of gas with the blood. The report does just notice the idea that the air might have entered during the artificial respiration, but adds that this would not explain the cause of death, having prejudged, that it was not the narcotic action of the chloroform; and goes on to state that the froth at the orifice of the vena cava proves that the air entered during life, entirely overlooking the fact (and I do not see it alluded to by any of the speakers), that the froth would be produced by the churning of the blood backwards and forwards in the large vessels, during the artificial respiration which had introduced the air. The Commission suppose that the air or gas was suddenly developed in the vessels by some unknown cause, and curiously the speakers who oppose their conclusion, admit this sudden evolution of gas, but attribute it to the chloroform—to a peculiar action of ether on the blood. This is the weak point in their argument, for M. Malgaigne justly replies that this is only hypothesis.

One fact of importance has been brought to light by this inquiry. In the report previously published, it was stated that not more than from fifteen to twenty drops of chloroform had been employed; but by a judicial examination of what was left in the bottle, it was found that from five to eight grammes had been used—from 77 to 123 grains, or from one to two tea-spoonfuls, a quantity amply sufficient to cause death.

After thus treating the special case submitted to them, it is not surprising, that the conclusions of the Commission on the general question are vague and unsatisfactory. Part of them are commonplace remarks in which everybody agrees; but in what danger really consists, and how it is to be avoided, is nowhere pointed out. They state: "there is risk of asphyxia when the anæsthetic vapour is not sufficiently mixed with air." The risk is not one of asphyxia, but of over-narcotism, which, according to circumstances, may cause death by paralyzing the respiratory movements, and so bear a certain resemblance to asphyxia, or may arrest the action of the heart, and so resemble syncope. They lay down, as a rule: "To take care, during inhalation, that a sufficient quantity of air be mixed with the chloroform, and that respiration be entirely free"; but they do not state what is a sufficient quantity of air; whether 75 parts air to 25 vapour is sufficient, or whether it should be 95 parts air to 5 of vapour, we are left entirely in the dark. The truth is, it ought to be somewhere about the latter quantity, and the vapour cannot ever be breathed with safety in larger proportion

[1] Medical Gazette, October 13, 1848.

than 10 parts by measure to 90 of air. The conclusion of the Commission means no more than that there should be sufficient air for the purposes of respiration, and this is a fatal mistake—I say fatal, for there has been a death from chloroform in France, since the adoption of the report by the Academy. It occurred in a public hospital, and would, in all probability, have been prevented, by a different line of conclusions on the part of that learned body. The chloroform in this case was applied on lint, which was placed loosely over the mouth and nostrils. There was no impediment to free respiration, but the man suddenly expired, as in the previously recorded cases; and so long as so powerful an agent as this is given with no better means of regulating its strength than a handkerchief or sponge, such melancholy cases cannot fail, now and then, to happen. Many patients, who have not suffered, have narrowly escaped; several cases of syncope from chloroform were mentioned in the late discussion, and they have frequently occurred in this country under the use of the handkerchief, although it is no part of the action of chloroform, when carefully given, to cause syncope. The pulse may become small on account of struggling or altered breathing; and when sickness follows the inhalation, there is often a degree of depression attending it, but never sudden fainting, which, if caused by the vapour, must depend on a near approach to paralysis of the heart.

The last recommendation of the Academy is judicious enough, "to suspend the inhalation as soon as insensibility is procured", etc., but unless there be some means of regulating the strength of the vapour, there may be a dangerous increase of the narcotism after the inhalation is suspended, owing to absorption of a large quantity of vapour that may be present in the lungs at the moment, and which will take about twenty seconds to get absorbed and reach the brain; thus accumulating the effect during that period.

M. Roux remarked, that if he supposed it necessary to take all the precautions recommended by some surgeons, he would for ever renounce the use of chloroform. I would reply, that those who are not willing to take very great precautions in using this powerful medicine, should employ ether, in the use of which, danger can be avoided by only moderate precaution, as it cannot act so swiftly as not to give due warning.

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NOTE ON THE DIGITI SEMI-MORTUI.

By MARSHALL HALL, M.D., F.R.S.

I AM frequently consulted in cases, in which one or more fingers lose their sensibility, their colour, and their temperature for a time. The appearance is that of death, and I have therefore designated these fingers "*digiti semi-mortui.*"

In one case, witnessed this morning, a thermometer applied to the middle finger, which was *semi-mortuus*, denoted a temperature of 61° Fahr.; applied to the fore-finger and the ring-finger, it rose to 81°; the difference being 20° of temperature. I think, that if the finger in this state were pricked with a needle, there would be little or no pain, or flow of blood; but I have not yet tried the experiment. External cold produces this affection; warmth and rubbing remove it. When the patient has been once subjected to it, it is very apt to return. It occurs in middle, as well as in old age. What is its precise nature, cause, and effect?

I am about to have a drawing taken of a finger or fingers so affected, and to gather a few instances together for the LONDON JOURNAL OF MEDICINE. I mentioned the subject at the Harveian Society, on Thursday evening last, the 15th instant, but the fact seemed to have been noticed but by few of the members present.

Manchester Square, London, Feb. 17, 1849.

BIBLIOGRAPHICAL RECORD.

THOUGHTS ON PULMONARY CONSUMPTION; with an Appendix on the Climate of Torquay. By WILLIAM HERRIES MADDEN, M.D., Physician to the Torbay Infirmary and Dispensary, Author of a Prize Essay on Cutaneous Absorption, etc. pp. 219. London: 1849.

DR. MADDEN'S THOUGHTS ON PULMONARY CONSUMPTION are not intended as a systematic treatise on phthisis; nor is the work, like too many monographs on the same subject, an idle attempt to set forth some empirical views relating to the disease, or to some remedy supposed to act on it in a manner to which no others can lay claim. On the contrary, it is the product of a mind, sensible alike to the value of carefully observed facts, and of philosophical reasoning. The main object which the author has proposed to himself, is to elucidate the *true substantive nature* of phthisis, "by a comprehensive view of the phenomena presented by the disease itself, and by the diathesis which precedes its manifestation, attempting to form a consistent picture of the whole, to show by what links the separate parts are connected, and to demonstrate *why* the results are what our investigations prove them to be."

The work is divided into two parts: the first treats of the Chemistry, Histology, and Physiology of Tubercle; the second, of the Manifested Disease.

In the first part, the first section contains an excellent sketch of the subject, and of the manner in which our investigations should be carried on. It is not by a mere empirical attention to symptoms, nor by a theoretical acquaintance with the *essence* of a disease, founded on the appearances seen in the dead subject, that we are to expect to arrive at any correct conclusions respecting its nature or treatment. Too exclusive an attention to symptoms, or to post-mortem appearances, tend to lead, the former to empiricism, the latter to hasty conclusions, by which many have been arrested in their inquiries after truth. Neither of these must be neglected; but "if we would arrive at a true acquaintance with the morbid processes, we must go much further than this. We must investigate causes: we must inquire into the vital forces which are brought into play for the production of the results we witness: and, when new substances are formed,—in other words, when there are morbid deposits,—we must ascertain, as far as may be, the intimate structure, the true essential nature of these abnormal entities. And then, combining in one general view our reasonings and our discoveries, we must seek to form a connected and consistent picture of the whole; and, remembering always that we have to deal with a living and most complicated organism, must study to apply such remedies as will meet the various exigencies of the case; subduing inordinate action, stimulating that which is defective, and altering that which is unhealthy or perverted." (pp. 3 and 4.) Such a combination of observation with rationalism, as is here recommended, will alone serve to bring medical science to an approach to perfection. Rationalism has been assailed with ridicule, because being, comparatively speaking, in its infancy, some of its over-zealous followers have proposed views which have not stood the test of experience, and have been successively compelled to give place to others, some of them not less ill-founded. It has been accused of a *petitio principii*, of assuming more than has been proved; of torturing discoveries in chemistry, or in physics, or in physiology, into seeming applicability to pathology, and thus preventing real progress in art, and perpetuating its uncertainty, by creating a constant change of *à priori* notions, aimless, endless, resultless. There is ground for such a charge, only so far as rationalism has not been joined with observation. The theories of Cullen, of Brown, of Rasori, of Broussais, have fallen, because they were not founded on correct data; but has this

been the case with *all* rational doctrines? And is this error, or the often hasty conclusions drawn from the effect of poisons introduced into the blood, with respect to the action of the same materials when taken into the alimentary canal, or from any analogous experiments, to be made the grounds of an attack on every thing which does not bear the stamp of observation—in other words, of empiricism—and nothing else? The devotees of observation err, in assuming that medicine is an *art;* it is, moreover, a *science*, on which, perhaps more than on any other, the reasoning faculties of the mind can be, as they are doubtless intended to be, most extensively exercised. We do not wish to uphold rationalism at the expense of observation, for we should then be guilty of desiring to retard the progress of medical art; but we must express our conviction, that an exclusive attention to numerical facts tends very greatly to retard the progress of medical science, and to prevent the formation of a sound system of pathology. Both must be duly combined; and then only can we hope that medical art, and medical science, can make any progress. And, in the disease under consideration, such a combination is pre-eminently necessary.

Section II treats of the Chemistry of Tubercle. From the analyses of tubercular matter by Preuss, Simon, etc., it is found to contain casein, indicating defective elaboration. Pyin has also been detected; and the presence of this matter would seem to indicate the existence of a certain amount of inflammation, or abnormal increase of oxidized protein in the lungs. Dr. Madden, with Simon, regards the extractive matters found in tubercle, as products of the nutrition and waste of the different tissues. Their presence in tubercle may be explained in two ways: either that the healthy process of renal excretion, by which they are thrown off in the normal state, is defective, or that they are merely the result of the waste of tissues, and indicate, by their preponderance, the undue activity of the decomposing process. This latter view appears more correct, when considered in conjunction with the fatty nature of the tubercular deposit; for the fatty transformation of organs is evidently a process of degeneration.

Section III treats of the Histology of Tubercle, and contains the result of microscopic examinations made by Dr. Madden. He has not been able, with a magnifying power of 470 diameters, to detect any distinct appearance of nuclei in the cells of tubercle; and he does not think that they exist. In the stage of softening, Dr. Bennett considers the tubercular matter sometimes wholly composed of granules or molecules. Dr. Madden has generally found a number of free oil globules, and some crystals of cholesterin. He adopts the view of Lebert and Addison, that the usual seat of tubercle in the lungs is in the intervesicular areolar tissue; but in some cases they are deposited in the air-cells, or in the capillary bronchi. He has in vain sought for the terminating vesicles filled with yellow tubercles, as described by Dr. Carswell. In advanced stages of the disease, all the textures of the lung appear to be implicated.

The essential characteristic of tubercular deposit consists in its peculiar corpuscles, which the author regards as bodies *sui generis*. They are not, as Dr. Addison has supposed, abnormal epithelial cells; for the latter are nucleated, while tubercle-corpuscles are devoid of nuclei. This want of nuclei serves also to distinguish them from pus-corpuscles, and from the large transparent cancer-cells. That tubercle-corpuscles may be *analogous* with all these, there can be no doubt, in so far as they each give evidence of a diseased state of nutrition; but that they are *identical*, is by no means probable. Dr. Madden thinks that tubercular deposits are the uniform result of the operation of one special cause. We find a tubercular lymphatic gland, after having inflamed and suppurated, resisting all our attempts to heal it; we also find leech-bites producing incurable ulcerations over the skin of a malignant tumour. Again, a patient with tubercular disease of a joint, after it has been removed, dies of pulmonary consumption: and an analogous trans-

ference of the disease to some internal organ occurs, when a limb is removed for a carcinomatous tumour. Why should we deny a specific property in tubercular matter, any more than in cancer, and refuse to admit that their action is analogous? The argument, then, is, that "the fountain of the two diseases is alike a vitiation of the blood, and the phenomena presented by both are what they are, simply because the morbid elements have a certain determinate and altogether specific character; or, to speak with more correctness, because the vitiation on which they depend, is, in each, peculiar and distinct from all other morbid changes."

Section IV contains an account of the STATE OF THE BLOOD in Phthisis. The analyses of Simon, Andral and Gavarret, and Becquerel and Rodier, shew that there is an increase of fibrin, with a diminution of the amount of red corpuscles: the former being sometimes in the proportion of 6.5 to 1000, that of healthy blood being 2.104 (Simon). Dr. Glover very correctly remarks, in his admirable "Essay on Scrofula," p. 117, that "analyses of the blood in phthisis are obviously much less instructive of the real character of the alteration, which takes place in this fluid, than are those which can be made in scrofula, or mere external tubercle, on account of the great debility and cachexia, arising from obstruction of the more important functions, present in the internal scrofulous diseases." The results, however, of his investigations into the blood, in external tuberculosis, correspond very closely with the results above stated.

Section V treats of the STATE OF NUTRITION. It is evident that we must correctly understand the nature of healthy nutrition, before we can have any scientific appreciation of the nature of tubercular consumption. Dr. Madden passes briefly in review the selection of material from the food, the formation of chyle, its absorption by the lacteals, its properties, and the change it undergoes in its course. The gradual conversion of albumen into fibrin he considers may be brought about by the communication of a higher degree of vitality, from the influence of the living solids with which it is in contact. But to account for the almost entire disappearance of the oil, something more is necessary; nitrogen must be communicated to the non-azotized substance, to convert it into albumen: and this is supposed by Dr. Madden to be derived from the vasa vasorum of the lymphatics, but chiefly from the blood vessels of the glands. He considers this idea supported by the fact, that the secretion of the liver, which is mainly formed from blood which has returned from these vessels, consists almost entirely of unazotized ingredients. Dr. Madden then takes into consideration the changes produced in the blood, the exudation of blastema from the blood-vessels, and its assimilation by the living structures into which it is poured out. He also offers some remarks on inflammation, and adopts the views of Dr. Williams as to the cause of the rapid generation of the colourless corpuscles. The views of Dr. Addison, that the colourless corpuscles pass bodily through the walls of the blood-vessels, and constitute plastic lymph, or pus, he considers doubtful; but thinks it more probable, that these adhere to the walls of the capillary vessels, and burst, so that their contents are poured out. He concludes that inflammation is nothing more than an "abnormal modification of ordinary nutritive actions." The *method* observed in the nutrition of the body is simple; but the *machinery* is complicated: and an error in one point must necessarily be propagated to all the rest. The account of scrofula, given by Mr. Phillips, indicates a fundamental error in the great process of nutrition; and can any light be thrown on the *cause* of this? Dr. Madden refers the coldness and pallor of the surface, the defective muscular energy, the sluggishness of the brain, to the diminution in the amount of red corpuscles, and the consequent insufficiency of oxygen. Moreover, "the blood-liquor does not undergo the full extent of vitalization; and, therefore, though the fibrin it contains be increased in absolute quantity, it is of less value, from its low plasticity; the defect of oxygen necessarily reduces it, more or less, from

the condition of arterial towards that of venous blood. Hence, the structures formed are imperfect; and hence, when this state of things has gone on for a considerable time, and the consequent derangements have become more serious and more persistent, we have the deposit of the caco-plastic or aplastic tubercle, in the place of healthy tissue. It is no little confirmation of the accuracy of these views, that the chemical characteristics of tubercle are precisely in accordance with them. Their protein basis is albuminous,—in part, according to many chemists, caseous,—and they are signalised by the increased proportions of fatty and extractive matters." (pp. 48, 49.) The presence of pyin, or tritoxide of protein, in tubercle, is apparently opposed to the theory of defective oxygenation. But this is capable of explanation, by supposing that the oxygen introduced into the lungs, from want of red corpuscles to convey it through the system, acts on the matter which it finds there, and converts it in part into pyin; or it may be the result of inflammation in the living solids around.

We have, then, "sufficient evidence to demonstrate that the particular substance, tubercle, is the result of abnormal nutrition: that it is the necessary consequence of a *peculiar* modification of those processes by which the living body is maintained in integrity, and by which its several parts grow and increase. I say *peculiar*, because it is clear that *all* malnutrition does not give rise to the production of tubercle; otherwise, every one affected with severe or prolonged dyspepsia would inevitably become tuberculous, which we know is not the case. It is a special disease, and owns a special parentage". (p. 52.)

Mr. Paget has endeavoured to shew, that each organic part of the healthy body, when first deposited, is an *excretion*, the removal of which fits the blood for the construction of other tissues. It appears to Dr. Madden, that this explains the very early occurrence of emaciation in cases of phthisis pulmonalis. For the separation of the *imperfect* matter, tubercle, from the blood, must of necessity render the remainder of that fluid more or less unfit for nutrition; it retains what it should have lost, or has parted with more than it should have given up; it is not healthy, and cannot act with healthy energy. These remarks apply especially to the gradual and insidious form of phthisis, not being the sequel of pre-existing disease. It is probably also an essential part of the process in cases preceded by pneumonia, or catarrhs, or a subsidence of exanthematous eruption, although the emaciation may be dependent on other causes also.

Section VI contains some very powerful arguments in favour of the Identity of Tubercular and Scrofulous Diseases. The opposite view has been supported by several writers of note, and especially by Mr. Phillips, in his recent work on *Scrofula and its Treatment*. He acknowledges that there are no appreciable chemical or physical differences between tubercular and scrofulous matter, but lays little stress on this fact. Dr. Madden regards it as all-important, and considers that there are good *à priori* grounds for the opinion, that both prove the existence of the same disease; that both, being similar effects, should be attributed to the same cause. Mr. Phillips argues, that scrofulous disease of the subcutaneous glands is always preceded by inflammation, while tubercle is generally formed in the lungs without any such preliminary proceeding. But neither in the case of scrofulous glands, nor when tubercle is developed by pneumonia, can inflammation alone produce the results which we observe; there must be a predisposition. The facts stated by Mr. Phillips only prove, that the more active organ—the lung—does not require an additional stimulus to cause it to take on diseased action; while, in the gland, there must be an exalted and perverted nutrition, to which we give the name of inflammation. The fancied difference in the vascularity of the two products is not insisted on by Mr. Phillips, nor is it at all available, for both are *extra vascular*.

A great source of error has been the limitation of the term scrofula to that

form of disease in which the subcutaneous glands are affected; but it is doubtful whether, in the cases of death recorded as taking place from scrofula, disease of the cervical glands has been observed to be the only sign. If other affections are included, then the definition fails. The facts, that scrofula is most fatal before puberty, and phthisis after; that males fall victims to scrofula, and females to phthisis; do not prove an essential difference, but can be readily explained on the supposition of the identity of the two diseases. The localization of cancer is influenced by age and sex; but no one doubts that its various manifestations do not arise from the same cause. Dr. Madden thinks that external circumstances, peculiar morbific influences, and special modifications of functional activity and organic development in the two sexes, and at different periods of life, are sufficient to account for the observed discrepancies. And the geographic distribution of scrofula or phthisis is susceptible of like explanation. "Take by way of example, two children of the same family, both inheriting from their parents the same defective constitution.[1] The one, a boy, is sent to school, and engages with his companions in all manner of athletic exercises. He receives an injury upon his knee; inflammation follows; the latent disease, thus roused into activity, becomes fully developed, and he sinks, exhausted by the discharges and the constitutional irritation from the scrofulous joint. The other is a girl, and not exposed to the same sources of danger; but she is confined much to the house, in the acquisition of certain so-called necessary accomplishments, and exposed to the frequent sudden alternations of temperature which are unavoidable in following out the amusements of fashionable life; and thus her lungs, ill-defended, because sufficient warm clothing is not worn, become at last affected, and she dies of phthisis. Is not the disease identical in both, though its manifestations are different?" (pp. 60-61.) From this, and similar considerations, the author very rationally concludes, that scrofulous affections of external parts, and tuberculous disease of the lungs, are separate manifestations of one and the same constitutional taint, originating in the same defect of organic elements and vital energies, and to be guarded against, or treated, when existing, by the same means.

The Second Part of this valuable treatise is devoted to the consideration of the Manifested Disease, and consists of five sections.

Section I treats of the Forms and Varieties of Phthisis. Pulmonary consumption may be more or less rapid in its fatal course, depending, not on accidental or external circumstances, nor, properly speaking, on relative severity of attack, but simply on the more or less profound contamination of the blood, without which there would be no consumption. In some cases, however, a most formidable and rapid destruction of parts follows inflammation, even when the constitutional taint is not pre-eminently marked. This constitutes acute phthisis. The structural changes produced are dependent on inflammation, but differ from the products of healthy inflammation, for the same reason that this process leads to different results in a healthy and in a scrofulous lymphatic gland.

The presence of miliary granulations in acute phthisis, Dr. Madden believes to depend on bronchitis, rather than on pneumonia. In bronchitis there is an excess of changed secretion, poured into the air tubes; and, where the

[1] Dr. Walshe, in his laborious report on Phthisis, in the British and Foreign Med.-Chir. Review for January 1849, throws some doubt on the hereditary transmission of the tubercular diathesis. Louis has done the same. But a greatly extended series of accurate statistics is necessary, before absence of hereditary predisposition can be determined. The statements of patients, on this subject, are little to be depended on; and supposing them correct, is non-predisposition to be inferred, because the immediate parents have given no manifestations of disease? May they not have received from their ancestors the germs, which have not been developed, either from want of exciting causes, or from some unfavourable state of their system as a nidus?

necessary predisposition exists, a tubercular deposit takes the place of the normal secretion, and appears as miliary granulations, because it is situated in the air-cells. It is not meant, however, that *plastic* lymph may not be deposited; it is not unknown in phthisis: but it is then mixed with the tubercular matter. All cases of phthisis, whether inflammatory or not, arise alike from peculiar malnutrition; but no condition acts so energetically and rapidly as inflammation, in developing tubercles.

Section II treats of the SYMPTOMS OF PHTHISIS, which are dependent on the condition of the tubercles. These are briefly but clearly described by Dr. Madden, and they are adduced in support of his purpose of tracing out the *common* origin of all the essential symptoms.

Section III contains a lucid account of the author's views on the *analogies* between tubercular disease and DISEASES ARISING FROM MORBID POISONS. A full and correct acquaintance with any disease is, in a great measure, to be obtained by tracing its analogies with others, whose true nature has been already determined. Dr. Madden applies this to tubercular disease, and points out its analogy with diseases arising from morbid poisons. The symptoms arising from mercury, iodine, and lead, from spurred-rye in bread, from syphilis, the exanthemata, glanders, or dissection wounds. and the morbid conditions produced sometimes after operations, injuries, or parturition, are all shown to depend on the presence of poisonous matter, whether inorganic or organic. Dr. Ferguson has shown, that puerperal fever results from the absorption of decomposed or unhealthy secretions on the surface of the uterus: and Dr. Todd, in his Croonian lectures, maintains the view, that the rheumatic diathesis is dependent on the circulation of an animal poison in the blood. On consideration, there appears a great general resemblance throughout the entire series of examples of poisons. "They are, plainly, members of the same natural family, differing, as individuals will do, in particular details, and in special combinations, but having so many features in common as to show that they spring from the same stock. Fever, we find, is almost universally present, though in varying degrees, and of diversified character; the body is emaciated; the digestive functions are more or less deranged; there are pains in the limbs; the skin is seldom natural in appearance, and its functions are perverted; the pulse is small; the whole system weakened; the secretions and excretions depart more or less widely from their normal characteristics. And then, we have organic changes in many organs; the eye is often affected; the larynx inflamed or ulcerated; pustules or abscesses form in the integuments, and the subjacent areolar tissue; the brain is not uncommonly diseased; the bones, and particularly the joints, suffer severely; the mucous membranes are greatly influenced; while the important depurating viscera, the kidneys, the liver, and the lungs, are, in a peculiar manner, liable to destructive alterations. Are not the phenomena of scrofula, in general, and of phthisis, in particular, closely analogous, I would almost say identical?" (p. 95.) The fever which almost universally occurs in phthisis, bears a marked resemblance to that which depends on absorption of marsh miasma, both in its periodic accession and in its special phenomena. Emaciation, the derangement of the digestive functions, pains in the limbs, the unnatural state of the skin, the small, feeble pulse, the morbid alterations of the secretions and excretions, in phthisis, all exhibit *functional resemblances* to the effects of poisons. The resemblance is still further shown by investigating the localities of the morbid *structural* changes. Inflammation of the eye is frequent in scrofulous subjects; Louis found the trachea, larynx, or epiglottis, ulcerated in a number of cases of phthisis, evidently not from acridity of the sputa. The analogy between affections of the absorbent glands, and the existence of subcutaneous abscesses, is most striking; and the same may be said with regard to diseases of the bones and joints, the most numerous and obstinate cases of which are furnished by scrofulous subjects. The cranial contents, according to Louis, are often variously affected, espe-

cially the arachnoid and sub-arachnoid tissues. The morbid appearances found here cannot be distinguished from those produced by other diseases, as typhus, or poisoning by opium. The mucous membranes are often affected; Louis found ulcerations of the small intestines in five-sixths of his cases; they were almost as frequent in the large intestine; and he found the intestinal canal perfectly healthy from end to end in only three cases. The kidneys are sometimes, but less frequently, diseased; and Dr. Christison has noticed granular degeneration during the progress of consumption; and it is well known that a scrofulous diathesis predisposes to this affection. More frequently the liver is affected with fatty degeneration; or it presents the appearance called "lardaceous liver" by Rokitansky, the analogue of which is found in persons whose health is broken from the combined effects of mercury and syphilis. On this, Dr. Madden remarks: "Let us pause for a moment, and reflect upon this fact, for surely it is most significant. We have a general disease of the system, scrofula, exerting its chief influence on the bones, or on the glands, and drawing in its train a serious organic alteration of the liver. We have a man suffering from another disease, and from the abuse of a powerful medicine; his bones, too, are affected, and his liver becomes involved in a precisely similar way. The *causation* of the latter is not doubtful; neither bones nor liver would have been diseased as they are, but for the presence of a double poison in his system. Why should we hesitate to attribute like effects to a like cause in the former? I confess I can see no reason. The matter appears to me intelligible on this supposition, and on this alone." (pp. 104-5.) Cases of phthisis furnish the majority of examples of fatty liver. Dr. Budd found this morbid alteration in a man who died of extensive cancerous ulceration of the groins. The liver contained no carcinamatous deposit; hence its disease must have depended upon the general contamination of the system. Tubercles have been found in the liver, by Dr. Budd, in some natives of the South Sea Islands, who died of phthisis; and M. Reynaud says, that the liver is frequently thus affected in phthisical monkeys. The frequency of pulmonary disease needs scarcely be mentioned. Having concluded his comparative sketch, of which we have given a brief outline, Dr. Madden remarks: "It appears to me impossible to read what has been written without being powerfully impressed with the striking resemblance which obtains between the two series of morbid actions. There are the same extensive functional disturbances—the fever, the profuse unhealthy sweats, the disordered secretions, the emaciation, the prostration—and the same wide-spread organic alterations. Must not the causes of effects so similar, be themselves similar? Must they not, to say the very least, have something common in their nature? I believe that this is really the case, and that scrofula, with its highest and most formidable manifestation—phthisis, is as much a poison-disease, as any of those others with which we have been concerned in the former part of this section. I believe that the observed phenomena depend upon the circulation of a peculiar specific *materies morbi* in the blood, and that the tubercle itself results from the special modification of nutrition induced by that particular poison, and by that alone.

"No one doubts now that cancer is the resultant of a pre-existing general contamination, or imagines that it can be produced when that contamination is not. And why have they arrived at this conclusion? Simply because of the thousands exposed to the exciting causes, a few, and a few only, become thus affected. Schirrhus of the lower lip appears to originate, sometimes, from the irritation caused by the pipe; but millions smoke every hour of every day, and retain their lips intact. Blows on the female breast are common enough, but the number of carcinomatous mammæ thus produced is vastly inferior.

"Precisely in the same way, fever, and emaciation, and prostration of strength, and absolute inanition, may occur, and do occur, in countless cases, where tubercle, from the beginning to the end, never makes its appearance.

The marasmus in phthisis, extreme though it be, is surpassed by that which we observe from schirrhus of the stomach, and yet in the latter disease we never find tubercles. A man may be reduced to a mere skeleton, and die of absolute starvation, from total inability to digest his food, or from its unwholesome nature; and yet, though nutrition is here entirely suspended, the peculiar morbid product, of which we are speaking, is not evolved. While, in another case, the body still remaining comparatively well-nourished, and the digestion proceeding to all appearance with due regularity, the lungs or other organs contain it in abundance.

"Again, tubercle, wheresoever found, presents the identically same characters. Take it from what part of the body you may, and when examined by the microscope, it will be found to consist of the same elements, the only difference being in the intermixture of the proper tissues of the part. This is inconceivable, if we suppose it to be nothing more than an imperfect form of the natural elements, a half-generation, if I may so call it, of the healthy texture. It is quite conceivable that nerve-tubes may not be completely developed, and so fail in the exercise of their proper function; or that bone-cells may not elaborate a right secretion, and the structure which they build up be thus abnormally constructed. But it is hard to understand how the arrest, or the imperfection of these ordinary vital workings, should educe a structure totally different from the natural ones, and absolutely the same in two such diverse localities, unless there be some one special influence brought to bear on both alike.

"Yet again. Tubercle is often coetaneously deposited in many parts of the body, as is evidenced by its being found there in precisely the same stage of progress. Louis relates an interesting case of this kind, in which there were crude tubercles in the same stage of development, in the neck, the right axilla, the mesentery, the loins, the spleen, the brain, and the cerebellum; and he very justly remarks,[1] 'I really do not understand how this fact can be accounted for, unless by admitting the agency of one and the same cause, acting at one and the same time upon all these parts'." (pp. 106-9.)

In poison-diseases, we find a tendency in certain organs of the body to become affected, evidently from a natural tendency in the living body to get rid of injurious matters, whether introduced from without, or generated within. Of the former, the diarrhœa from errors in diet is an example; of the latter, the excretion of sugar by the urine, of urates and uric acid, of many medicinal agents, as ferrocyanide of potassium, sulphuret of potassium, sulphocyanide of potassium, iodine, various organic acids, arsenic, tartarised antimony, all of which have been found to be eliminated by the kidneys. MM. Danger and Flandin state, that arsenic escapes by the lungs, liver, and skin; and Mr. Herapath and Dr. Taylor have found it in the liver. The presence of certain organic substances has been detected in the urine, as the *amanita muscaria*, opium, belladonna, hemlock, &c., the effects of which are communicated to other animals, on the fluid being administered to them. Dr. Percy has shewn, that in cases of poisoning by alcohol, that fluid may be found after death in the brain, liver, blood, bile, and urine. It would appear likely, then, that the local changes are caused either by the action of the morbid poison itself upon the parts to which it is derived, or by the undue activity of those parts, in their efforts to eliminate the offending matter. The effects of the poison of lepra, and of the exanthemata, on the skin, are examples of this; as are also the abdominal complications in typhus fever, arising from an over-excitement of the intestinal glandulæ, whose function is probably to get rid of putrescent matters, and the occurrence of diarrhœa and inflammation, and ulceration, in scrofula and phthisis. These are all evidently analogous. The perspirations in consumption are probably, like those of intermittent fever and rheumatism, attempts to get rid of the

[1] Researches on Phthisis. Sydenham Society's edition, p. 144.

morbific matter from the system. Fatty liver arises from the excess of a normal ingredient: how is it produced? The livers of geese are made fatty, in France, by shutting the animals up without food, in close cages, exposed to a graduated heat. Emaciation takes place, and the livers increase in size, and become fatty. And, in the non-phthisical cases of fatty liver, extreme wasting has been observed. Hence it is partially explained by the removal of adipose matter from other parts of the system. But emaciation is not always attended by fatty degeneration of the liver; hence another cause must be sought. When fatty liver occurs in persons not affected with tubercle, they have been the subjects of some blood-disease, as cancer or pemphigus, or of extensive suppuration. Moreover, the abnormal presence of fat is an evidence of a process of degeneration; and, therefore, its existence in tubercle is one of the many proofs that this morbid product arises from malnutrition. The lesion under consideration can be brought under the same general law of analogy, in the following way:—"The specific poison, acting at all parts, interferes with the healthy elaboration of every tissue. As a consequence of this, fat is found in excess, and where it does not naturally exist. This fat, absorbed into the blood in large quantities, is laid hold of by the hepatic cells, which have a natural affinity for it. It is taken up by these for the purpose of excretion, but the supply is greater than the demand, and it therefore accumulates in the new position. There is here a perfect analogy with that which we have supposed to occur in the intestinal glandulæ." (pp. 117-18.) The prevalence of tubercle in the lungs, Dr. Madden explains, by supposing the poison brought to them by the blood, to exercise a specific modifying influence on their nutrition; or (which he supposes a more satisfactory interpretation), that the general law is here followed, by which particular matters are attracted to, and retained in, certain organs and tissues. The localisation of the disease in the apex of the lungs is more difficult of explanation; but it is evidently analogous to the symmetrical distribution of other affections, as noticed by Dr. Budd, the peculiar action of chlorine acids on the heart, observed by Mr. Blake, or the action of strychnine on the *true spinal system*. And the greater frequency of tubercles in the left lung is analogous to what is observed in cancer, that the right breast and the lower lip are most commonly affected. These evidences of selection, like what we see in the effects of other poisons, are confirmatory of the doctrine of the poison-origin of phthisis; and other resemblances may be found in the period of latency, and in the exaltation of the activity of the poison, by depression of the vital energies. Another general law, applicable to phthisis in common with the results of other poisons, is the tendency of poisonous matters to accumulate, in considerable quantities, in the part to which they are determined. And it is remarkable, that parts organically damaged, either by mechanical injury, or antecedent inflammation, are specially liable to become the seat of tuberculous deposition, or of the manifestation of any other poison, as small-pox.

Dr. Madden, at the end of this section, notices the objections which may be made to the theory he has propounded. The objection, that the poison of scrofula has never been isolated, would apply with equal force to intermittent fevers, or typhus, or plague. There is no apparent distinction between the matter of syphilis, gonorrhœa, or small-pox: there is nothing here which can guide us to the cause of their specific properties. The objections arising from the non-contagious or non-infectious nature of phthisis, may be answered in the same way. Intermittents and rheumatism are not contagious: and lepra cannot be propagated by inoculation.

Section IV contains some judicious and careful remarks on the Diagnosis of Phthisis, which, however, our limits prevent us from attempting to analyse. We can only remark, that Dr. Madden attaches their due importance both to physical signs and general symptoms, and does not unduly exalt one at the expense of the other.

Section V is devoted to the TREATMENT. From pathological reasoning, Dr. Madden points out that "the treatment of tubercular diseases, to be effectual, must be directed to the securing of the following ends, viz.. the neutralization of the poison, or its elimination from the system, and the restoration to a healthy state of the great function of nutrition in all its parts. Combined with these, there must be, of course, the meeting of local evils by local remedies." (p. 151.) A specific for the neutralization of the poison has not been obtained; but it should no less be sought for. A mere *solvent for tubercle is not the thing required.*

As regards the acute form of the disease, its symptoms must be treated antiphlogistically, yet with great caution. Dr. Madden points out dangers from bleeding in phthisis, and from mercury in scrofulous subjects; but the latter remedy he considers valuable in acute phthisis. With it he combines salines, especially nitrate of potash. Tonics should be had recourse to as soon as the symptoms permit.

In the ordinary forms of phthisis, the indications pointed out by the author are: "To secure the removal of the poison by the general channels of outlet,—to moderate the fever which it always produces to a greater or less extent,—to check undue local excitements, which are very apt to occur during the process of elimination,—and to support the system at large, so that it may be able to bear the constant demands made upon it." (pp. 155-6.) The remarks on the eliminating power of the skin, and the importance of maintaining its function in a state of freedom; and on the necessity for preserving the lungs unimpeded in their eliminative function, are worthy of a careful perusal. With respect to Liebig's view of hyperoxidation in phthisis, Dr. Madden remarks:

"I may here shortly notice a theory, which, both from the eminence of its illustrious propounder, and from its own very attractive simplicity, has been received with much favour, and found many advocates; and which, if true, would completely set aside our argument for open-air exercise in consumptive cases. I mean the view taken by Liebig, that in phthisis there is excessive oxygenation going on, and that this is the true cause of the destructive waste of tissues. For it is very evident, that upon this supposition we are doing all we can to increase the mischief, by sending our patients where they will respire freely in a pure air; seeing that by this method we increase the quantity of the destroying agent, which is received into the lungs at each inhalation. A close, ill-ventilated room would, under such circumstances, be infinitely preferable.

"But how stands the case? Clinical experience, the ultimate and only true test of all medical theories, is completely at variance with this hypothesis. We see that our patients do best when they have the advantage of breathing a pure air, with its full proportion of oxygen, provided its other qualities, in respect of temperature and hygrometric condition, be not injurious; and we see also that their improvement is, in very many cases, closely proportionate to the facilities afforded of respiring freely in such an atmosphere.

"And when we come to examine the question a little more closely, the doubt already engendered by these observed facts becomes greatly increased, if even the certainty of the erroneous nature of the theory be not definitely established.

"According to Liebig's view, urea is the result of the oxygenation of uric acid, formed by the metamorphosis of tissue; and the presence of uric-acid deposits in the urine is a measure of the imperfection of this process. In phthisis, therefore, if excessive oxydation were going on, these deposits should not occur, and the uric acid should be, both positively and relatively to the quantity of urea, at a low point. But we know that the urine of consumptive patients is often loaded with such sediments (I have notes of some cases illustrating this fact, the disease being in various stages, and

have observed many more); and the researches of Becquerel clearly show that the supposed law does not hold good. Thus, in chlorosis, a disease of anæmia, in which oxygenation must be most imperfect, by reason of the deficiency of red blood-corpuscles, he found that the uric acid, instead of being in excess, was positively and relatively below, rather than above, the healthy average. The same, also, was observed in a case of pulmonary emphysema, with intense dyspnœa. While in acute hepatitis, and in phthisis, the uric acid was at a maximum, instead of a minimum. Moreover, as Dr. Bird very justly observes, there is another and a serious objection to the theory, in the instance of diabetes mellitus; for 'this disease is, in the majority of cases, complicated with phthisis; indeed so frequently, that some pathologists have supposed this complication to be a necessary one. Yet here, while phthisical disorganization is going on, and excessive oxydation is supposed to be entirely destroying the tissues of the body, an abundance of highly-carbonized—indeed a readily oxydizable—substance is generated in the body, circulates in the blood, and escapes by the kidneys. By what ingenuity the fact of the (assumed) excessive oxydation, going on contemporaneously with the copious formation of an inflammable body, sugar, can be reconciled with this hypothesis, I am at a loss to determine.'

"I would add, that the frequent occurrence of fatty liver, and the increased proportion of fat always present in tubercles, are also inexplicable under the above theory; and that, if it were true, it would scarcely be comprehensible how chlorosis should be so often terminated by confirmed phthisis." (pp. 168-70.)

Dr. Madden considers that the importance attached to the selection of a proper climate for scrofulous children, is in strict accordance with the views he advocates of the essential nature of the tubercular constitution, and of the disease itself. Besides the skin and lungs, the depurative action of the liver and kidneys must be assisted; and especial care must be taken not to overtask any one single organ, or set of organs. Dr. Madden does not believe that any fixed rules for diet can be laid down. He would only avoid substances known to be indigestible, and occasionally restrict the use of stimulants; and, in other respects, consult the individual's experience, or our own personal observation. He recommends salines to increase the action of the kidneys, to enable these organs to carry off the azotized elements of metamorphosed tissue, which would otherwise accumulate.

The moderation of the fever is dependent on the arresting of the disease itself. To check undue local excitement in the lungs, giving rise to hæmoptysis, Dr. Madden recommends cooling aperients, with nitrate of potash or acetate of lead, when the bleeding is of any extent. He recommends friction of the surface of the chest, especially with strong acetic acid, combined with turpentine or acetum lyttæ. The intestinal mucous membrane may also be the seat of excitement; and here much may be done in the way of prevention, by careful regulation of diet, and a due attention to the state of the bowels. Where the irritation has produced diarrhœa, he recommends chalk mixture with aromatic confection and opium, or trisnitrate of bismuth with magnesia; and when the tongue is bright red or spotted with aphthæ, biborate of soda may be given. In the fulfilment of the last indication, to support the system at large, the deficiency of red particles points to iron as a remedy; and, as such, it is very efficacious, except in some exceptional cases, chiefly where there is a strong tendency to hæmoptysis. Quinine and other vegetable bitters are valuable. Dr. Madden considers iodine much less useful in phthisis than in the more external manifestations of scrofula. Iodide of potassium seems most likely to be of service; principally, because its use can be persisted in.

Dr. Madden has but a low opinion of *Iodine Inhalations*, and of inhalations in general in phthisis. He has great confidence in cod-liver oil, but does not consider that it acts either by its iodine, or by merely supplying

matter for combustion. He has no confidence in naphtha. With a few remarks on special remedies for particular symptoms, the work, so far as regards Phthisis, terminates. It is followed by an Appendix, containing some valuable information on the CLIMATE OF TORQUAY, where Dr. Madden resides.

We cordially recommend our readers to peruse this instructive Treatise, and not to rest satisfied with our account of it. While apparently indulging in theories, the author never neglects observation; and hence, the views which he brings forward are such, as to merit careful attention from every candid pathological inquirer.

WORKS ON CHOLERA, the Titles of which are given at page 72 of the January Number; to which are now added the following:—

11. CHOLERA GLEANINGS: a Family Hand-Book. By Dr. J. GILLKREST, Inspector-General of Army Hospitals, and Corresponding Member of the Paris National Academy of Medicine. 8vo. pp. 86. Gibraltar: 1848.
12. THE CHOLERA NOT TO BE ARRESTED BY QUARANTINE; with Practical Remarks on the Treatment, Preventive and Curative, of the Disease. By GAVIN MILROY, M.D., Member of the Royal College of Physicians. 8vo. pp. 51. London: 1847.
13. PLAIN DIRECTIONS FOR THE PREVENTION AND TREATMENT OF CHOLERA. By THOMAS ALLEN, M.R.C.S., and Surgeon to the Cholera Hospital at Oxford, 1832. Fourth edition. 8vo. pp. 42. Oxford: 1848.
14. A SKETCH OF A POPULAR AND A NOVEL TREATMENT FOR DIARRHŒA, DYSENTERY, AND ASIATIC CHOLERA. By EDMUND SKIERS, M.D. 8vo. pp. 91. London: 1849.
15. TWO LECTURES ON CHOLERA AND INTERMITTENT FEVER; addressed to the Members of the Medical Profession in Manchester. By CHARLES W. BELL, M.D., F.L.S. 8vo. pp. 101. London: 1849.
16. EDINBURGH MONTHLY JOURNAL OF THE MEDICAL SCIENCES, for December 1848. Some Account of the Practice in the Cholera Hospital in Surgeon-square, Edinburgh. By WILLIAM ROBERTSON, M.D., F.R.C.P. Ed. Physician to the Edinburgh Royal Infirmary, and Cholera Hospital.
17. REPORTS ON ASIATIC CHOLERA IN REGIMENTS OF THE MADRAS ARMY, FROM 1828 TO 1844; with Introductory Remarks on its Modes of Diffusion and Prevention. By SAMUEL ROGERS, F.R.C.S., and Surgeon of the Madras Army. 8vo. pp. 267.
18. THE LEADING PHENOMENA OF EPIDEMIC CHOLERA; with some Plain Suggestions for its Better Treatment and Prevention. By AMBROSE BLACKLOCK, Assistant Surgeon, Madras Medical Establishment. 8vo. pp. 68. Madras: 1848.
19. THE CODE OF SAFETY; or Causes, Effects, and Aids, Preventive and Curative, as well of other Epidemics, as also of Asiatic Cholera. By G. F. COLLIER, M.D. 8vo. pp. 96. London: 1849.
20. REPORT ON THE STATE OF THE CRICHTON INSTITUTION DURING THE PREVALENCE OF CHOLERA IN DUMFRIES. 8vo. pp. 8.

WE resume our review of recent Pamphlets and Memoirs on Cholera. The origin, progress, and diffusion of this Asiatic malady, are subjects beset with uncertainty, and enveloped in obscurity, regarding which men's sentiments are sometimes so completely opposed, as not to admit of mediate gradation—wherein, however, (according to the maxim, "*medio tutissimus ibis,*") truth will generally be found. The whole subject of epidemic and contagious diseases is manifestly one of much difficulty; since persons, reasoning from precisely the same premises, arrive at opposite conclusions. The examination, however, of the facts, recorded by different observers, has not always been conducted with that due care, and freedom from pre-

judice, which might keep the mind from erroneous conclusions. We should be exceeding the limits prescribed to ourselves, in our Bibliographical Notices, were we to examine the whole evidence relative to the manner in which a contagious virus originates; and we must therefore rest content with briefly noticing the points of dispute between extreme non-contagionists and contagionists, along with such conclusions as are sanctioned by evidence, and which have been fairly deduced from the additional facts, on the nature and origin of fevers and Cholera, industriously collected in modern times.

Both extreme contagionists and non-contagionists, reasoning on the nature of apparently contagious fevers, are reduced to the necessity of maintaining, that *contagious virus* is unchangeable and sempiternal, and cannot be generated, *de novo*, by epidemic and endemic agents; but that it is capable of producing, in the human body, a re-producing and self-multiplying cause *sui generis*. It is a fact well ascertained, that particular atmospheric conditions so modify the *materia morbi* of *specific contagions*,—such as small-pox and cow-pox,—that, in some places, it is incapable of communicating a disease of its own kind; and from this admission, or establishment of fact, the deduction naturally follows, that contagion, in more questionably contagious diseases, is only an accessory property, originating from epidemic and endemic conditions of surrounding media, which are contingent and uncertain. These cooperating circumstances, or conditions, are impure and deficient food, fatigue and fasting, among masses of people accidentally collected; filth, and accumulation of human effluvia, in ill-ventilated apartments, low, damp situations, and malarious emanations from the banks of rivers, or stagnant ditches—aided in their operations by sudden reductions of temperature, and a peculiar, epidemic constitution of the atmosphere. Though a combination of these conditions, seems necessary to the development of a contagious fever or Cholera virus, the latter two must be considered as general agents, or exciting causes. They only require a suitable, or predisposed, condition of the recipient human body, to give them currency in producing a malady, against which isolation can bestow no absolute security, as it is capable of propagation over vast tracts by atmospheric diffusion; and, in a limited degree, by means of contagion. Such, sometimes, are the characteristics of Cholera, as to its mode of propagation; but in the production of the disease, all the other cooperating conditions seem to act as predisposing causes.

It is impossible, therefore, and altogether inconsistent with evidence, to concede to the extreme non-contagionists, that marsh miasmata and malaria are incapable of generating a virus; or to agree with the contagionists, that specific contagions are of an invariable quality. Mr. Rogers, in his introductory remarks to the valuable Cholera Reports of the Madras army, blinks this question,—*Is Cholera ever propagated by contagion?* by answering with two indefinite and negative conclusions:—

1*st. Cholera has its origin in other than human sources: and the communication of the sick with the healthy is not necessary for its diffusion.*

2*nd. Cholera may be in many cases averted, and its mortality much lessened, by proper precautionary measures being adopted.* (p. 13.)

These principles of belief are warranted by facts, and have our unqualified approval; though they altogether keep out of view the important investigation, whether Cholera ever becomes a contagious disease. The propagation of it among persons composing large camps, and its dispersion in towns situated on its course, have been thought dependent on a different law from that by which it is synchronously diffused over large tracts of country: and if the former be not *contagion*, it is difficult to assign this mode of transmission to any other law. Mr. Rogers justly states the facts, as follows:—

"*The disease, when produced, attaches itself to the mass, and is by them transported from one place to another, and in this way disseminated to persons who were previously free from it. The truth of this appears to have attained*

general belief, and with justice, as we have, I think, evidence to prove. Dr. Henderson (see Chap. ix) *believed that on one occasion the disease was brought into the garrison of Bellary by a regiment of native infantry which was passing. And Dr. Parry* (see Chap. x) *also relates a similar circumstance occurring at the same place. And Dr. Mouatt* (see Chap. vii) *remarks 'though we do not deem the disease infectious or contagious, it is proper to state that it broke out in one village after the regiment encamped in its vicinity.'* "

Mr. Rogers seems unwilling to admit that Cholera, in such like examples, manifests a contagious character; and supposes that a specific poison, the primary and essential cause of the disease, can lie dormant in all situations in India, till certain accessory causes give it activity; the development of the disease following of course. This supposition is as unphilosophical as it is unsupported by fact; and, while Mr. Rogers' reports give satisfactory evidence of the *malarious* origin of Cholera in certain situations, he had only to admit, in explanation of these phenomena, that under certain conditions, the disease becomes partially transmissible by human contact, and more generally diffusible by an epidemic constitution of the atmosphere, as known by analogy in influenza and other epidemic diseases.

Dr. Gillkrest, the author of the pamphlet on our list, has been long known as an advocate of the non-contagion doctrine of *yellow fever*, in opposition to Sir William Pym; and he now appears to do battle for the same cause in respect of *Cholera*. He denies "*in toto*, the transmissibility of ague and remittent fevers, and so of Cholera certainly;" or, in other words, does not admit that a disease of plainly malarious origin, can, under any circumstances, become contagious. After what we have already said on this head, it is almost superfluous to follow the author through his various statements on this subject, gleaned from many official reports. We concede to him full credit for the sincerity and disinterestedness of his opinions, however widely we may differ from him; and would have been glad to see that his professional courtesy could acknowledge not less worthy motives in Sir William Pym, relative to the part which this gentleman had in establishing quarantine in England, during the prevalence of the Cholera in 1832. The opinions expressed in reviewing the pamphlets on Cholera in our first Number, will shield us from the accusation of being more than lukewarm contagionists, as regards this disease: and, when epidemic, we do not believe it can be arrested in its course, or kept from our shores, by the most stringent measures of quarantine.

On this head we most cordially agree with the opinions expressed in Dr. Milroy's pamphlet; the object of which is to investigate the mode in which Cholera is usually propagated, and to detail the means necessary for its prevention and cure. The author briefly sketches the history of the disease, as it prevailed in India, at various times, previous to the year 1817, when it first attracted general attention. In this narrative, however, he has omitted several facts. In its most malignant form it was well known to, and accurately described by, Curtis, Girdlestone, Duffin, and other writers of the last century, who had witnessed its outbreak at various times and places in the East Indies. In the spring of 1781, it attacked a body of troops near Ganjam, on their way to join Sir Eyre Coote's army; afterwards found its way to Calcutta, and occasioned great mortality among the native population, and then pursued its course to the northward. Two years subsequently, it destroyed upwards of 20,000 pilgrims assembled to celebrate a festival at Hurdwar; and in 1786 raged with great fatality in the confederate Mahratta and Moghul armies, under Hurry Punt, when employed against Tippoo Sultan; and can in no respect be considered a new disease, having been described by Hippocrates, Alexander Trallianus, and by several Chinese and Hindoo medical writers of very early date.

The outbreak of the epidemic in 1817—its extension through southern Asia, and subsequent diffusion both in a northern and western direction—its

migration in 1823, from India into Persia—its passage from the Georgian and Circassian frontiers into Russia—with its second outbreak in 1829, and progress through Georgia into Europe—are detailed with circumstances full of interest and instruction, as to the resemblance between some of the invasions of the influenza, and those, too, of the Cholera now described.

Dr. Milroy clearly and correctly points out how "a malady, not originally and necessarily infectious, may become so under certain unsalutary circumstances; and, on the other hand, that infection may act an occasional and very subordinate part in the diffusion of an epidemic, recognized by all writers to depend upon a certain atmospheric malaria." The atmosphere is the chief channel by which cholera and influenza are disseminated; but the admission is forced on us by facts, that, in both diseases, the recipient and victim of the morbific miasm may become a subordinate agent in its dissemination. Limited propagation, therefore, by means of personal intercourse, may take place during the continuance and agency of the *epidemic atmospheric constitution*, though the disease be not *essentially* or *primarily* infectious. In connexion with this subject, the occasional contagiousness of erysipelas, adduced by Dr. Reid in his recent letter, had been previously employed, at p. 26, of Dr. Milroy's pamphlet, and for a like purpose of analogical illustration. Cholera being thus capable of spreading itself by other ways than personal communication, preventive quarantine measures must be in a great degree nugatory: and to inculcate this doctrine, seems to be the main object of the valuable pamphlet now before us. Many judicious and useful practical observations are given by Dr. Milroy in regard to treatment, for which we refer our readers to the publication itself.

Mr. Allen's pages, containing a summary of his experience in treating the epidemic which prevailed at Oxford in 1832, are written, he tells us, for the guidance of non-professional persons; and, he says, embrace everything consistent with general medical experience. All disputed points are purposely avoided; and we may, on the whole, recommend this pamphlet as embodying safe and judicious advice, both for professional and non-professional readers.

Dr. Skiers' sketch is indeed a *novel*, though not likely, we think, to be a *popular*, mode of treatment, in English and Asiatic Cholera. It opens with great professions of philanthropy and sense of public duty, in his desire to assuage the sufferings of the poor and helpless; but which met, as the doctor laments, with no corresponding Christian or charitable feeling on the part of Lord John Russell and the Board of Health; to which authorities the author, in his first burst of benevolence, sent the manuscript entitled,—"Extract from a Popular Sketch, and a certain Novel Treatment for Diarrhœa, Dysentery, Sporadic Cholera, and Rational Treatment of Epidemic Cholera." Along with this, he left in the hands of the Board of Health a Cholera medal, with which he appears to have been honoured at Paris, during the prevalence of the disease in 1832. By repeated delays, and verbal messages to "call again," our author's patience became exhausted, and he determined that, delay being dangerous, as Cholera was rife, his views of treatment, founded on long practical experience, should be no longer kept from publicity. Covered by a mass of verbiage, we find something good in this pamphlet—a few grains of wheat in many bushels of chaff. Dr. Skiers recommends a stimulating hot water bath, mixed with powdered mustard or pepper; a large mustard cataplasm to be applied along the spine, and the use of cold drinks; all of which are rational enough. The chief novelty of his treatment, however, seems to be the "insufflation into the bowels of an antiperistaltic powder, starch or charcoal, by means of a tube or small syringe, after each alvine evacuation," giving also, by the mouth, a tea-spoonful of the same, mixed with water or other drinks, a variety of which he prescribes. We can scarcely sympathize with the disappointed author for the treatment he has met with from the Board of Health; deeming that sound discretion was exercised in regard to his appeal for adoption as an authority on Cholera.

Dr. C. Bell's lectures, delivered to the members of the medical profession at Manchester, and now published in the form of a pamphlet, are a repetition of his Report on the Epidemic Ague, or "fainting fever", of Persia, which occurred at Teheran in the autumn of 1842; an account of which will be found in the October number of the *British and Foreign Medical Review* for 1843. In his first lecture, the author considers the nature and treatment of cholera, in reference to its analogy with congestive agues of a quotidian type. In the treatment, therefore, the intentions are,—1st. *To prevent disturbance of, or restore natural action to, the capillary circulation.* 2nd. *To prevent excessive congestion, by anticipation.* 3rd. *To relieve congestion, if it have taken place.* The first may be accomplished by producing a sudden general impression on the nervous system, as by sudden immersion in cold water, or by administering those medicines possessing peculiar tonic powers to prevent periodicity, such as quinine. The second and third may be best effected by the early use of venesection. Dr Bell's views are the same indeed as maintained by some of our earliest and most celebrated physicians; and being founded on good sense and accurate observation, must daily acquire importance in the mind of every judicious member of the profession. In the second lecture Dr. Bell enters more fully into the question of the origin, nature, and pathology of Cholera; concluding that the disorder is not originally, but secondarily, in the blood, and therefore, that the primary cause must be morbid impression on the sympathetic nerves. In this, however, we can scarcely concur; agreeing, as we do, with Professor Webb, Dr. Parkes, and others, that Cholera is essentially a functional blood disease, wherein, by the mere cessation of endosmotic function in the pulmonic cells primarily, all vital operations depending on such endosmosis, cease as a matter of course. Microscopic observations have shown that the blood corpuscles are shrivelled and collapsed in Cholera, and have lost their power of absorbing oxygen, thus giving rise to congestion of the pulmonary capillaries: and we therefore question the soundness of Dr. Bell's opinions on this head. With regard to remedies, the author's chief dependence is on a combination of quinine and iron, as possessing in a remarkable degree the power of checking the vomiting and purging, and gradually restoring circulation, warmth, and secretion, without the assistance of any other applications. The pamphlet is well worthy of perusal, as containing much matter for reflection, regarding an improved system of treatment for Cholera.

Dr. Wm. Robertson gives the result of his practice in the Edinburgh Cholera Hospital, and a statistical statement of the deaths and cures among 131 patients admitted. Of these, 76 died, 28 were dismissed cured, and 27 (for the most part convalescents) remained under treatment. The proportion of female patients exceeded that of males in the ratio of 8 to 43. It is remarkable, that in several of the cases occurring in nursing-women, the mammary secretion was not arrested by the attack of Cholera. Little is said of the symptoms of the disease, as it appeared among hospital patients; the chief object of the communication being to describe the mode of treatment, and the efficacy of particular remedies. *Bloodletting* was tried in seven cases, and in an early stage, while yet the pulse was tolerably full. The quantity of blood drawn varied from 12 to 20 ounces, and the operation usually promptly relieved the patients from cramps; and the author is of opinion that venesection, when practised early and upon suitable subjects, will be found to be at least *good* practice, probably the best that can be adopted. An efficacious mode of using the *hot bath*, without fatigue to the patient, as frequently practised by medical men in India, is favourably spoken of, with a view of producing reaction, and restoring the natural temperature of the body. "The plan is to apply a sheet wrung out of warm water, as hot as the patient can bear it, so as to include and closely embrace the limbs, and to leave no part of the person but the head uncovered. Over this sheet several blankets are tightly wrapped, or 'packed,' after the fashion of the hydropaths, but without the

slightest respect for their pathology, or wish to imitate what they can with justice claim as their exclusive practice. Between the folds of the blankets, vessels full of warm water are disposed at intervals. The patient is then placed in a position which enables him to vomit over the side of the bed, and is supplied with water, hot or cold, *ad libitum*." *Chloroform* inhalations were administered with all the precautions necessary to insure success, and before the eyes of many observers of acknowledged accuracy. Truth, however, compels the author to state, that although chloroform has done much for the *comfort* of his Cholera patients, it has done nothing for their *cure*. "The cramps and urgent vomiting cease under its use, but recur whenever the patient awakes; and, although the soporific influence be maintained for hours by repeated inhalations, the result is still the same. The acts of vomiting and purging cease for a time, but the fluids are nevertheless still collecting in the stomach and bowels; the pulse becomes smaller and smaller, till it finally ceases to be felt at the wrist; the respiration becomes slower, the temperature at the surface sinks, as in too many cases of fatal collapse, and death closes the scene." Many trials of the *Persian petroleum* were made in the hospital; but though found useful in preventing the recurrence of vomiting, this drug certainly seems to possess no specific action as a cure for Cholera. *Injection of saline fluid* into the veins was tried in eight cases, and attended with only temporary amendment, all these patients having died within fourteen hours. Dr. Wm. Robertson's observations bear the impress of candour and sound judgment, and may be usefully perused by those desirous of trying new remedies of doubtful utility in this intractable disease.

Mr. Rogers' Reports on Cholera, as it appeared in various regiments serving in the Madras presidency, contain most valuable facts regarding the nature and symptoms of the disease, along with much useful information on the merits of the different remedies employed by the medical practitioners of India. Having already disposed of Mr. Rogers' prefatory remarks, we may here confine ourselves to gleaning from the reports, opinions as to the efficacy of particular remedies, hitherto untried or not generally employed. The application of *bandages* to the extremities speedily and effectually relieved cramps; and Dr. French is of opinion, that in no case of spasmodic cholera should they be omitted. *Cold douche* to the head, and general cold affusion, afforded great relief to the patients. *Blistering of the spine* and mustard cataplasms to the stomach were used by Dr. Parry, as subsidiary to the internal treatment by *calomel* and *opium*, with draughts of ammonia, æther, and camphor mixture. This gentleman states that the effects of cold affusion to the head were never permanent, and in one or two cases appeared to have been of dubious efficacy. In three cases of the disease, Dr. Parry had recourse to *galvanism*, in conjunction with other remedies. It appears to have had wonderful effect in rousing the sinking energies of the frame, and permanently restored the circulation in one case; and though it failed in the other two, it is recommended as a remedy well worthy of further trial. *Electro-magnetism* was also tried by Dr. Chapman, of H. M. 63rd regiment, in 35 cases, 20 of which terminated successfully; and in all, life was evidently prolonged by its use. It is considered a good auxiliary in the treatment of cholera; and, fortunately, its employment does not interfere in any way with the administration of other remedies. We recommend these reports to the attention of the profession, as containing a collection of valuable matter relative to the nature and treatment of cholera.

We regret that so much apparent talent should have been wasted in the wildest fancies of hypothesis, on the origin, nature and pathology of Cholera, as exhibited in Mr. Blacklock's pamphlet; and as all like attempts, which are not founded on a careful collation of facts, and accurate deductions from them, are calculated to foster spurious for real knowledge, we cannot sufficiently deprecate the substitution, whether in medicine or other sciences, of so fruitless a system of theory in place of observation and fact. Mr. Blacklock's

theory of the disease is quite as wild and hypothetical as that of Dr. Holmes, already noticed; differing from it, however, in ascribing the positive electrical condition and acid exudation from the surface of the large intestines, to a pustular punctiform eruption, preceding attacks of Asiatic cholera. The mucous surface of the stomach, the skin, and perhaps the bronchial surfaces, are at the same time considered to be in a negatively electrical condition, and secreting free alkali, simply because the mucous surface of the colon is positive and secreting acid. "The ganglionic system of the abdomen is therefore in a state of high excitement, and, from excess of action, resolves the oxygen and hydrogen of the tissues into water, which passes off by the bowels; while the spinal respiratory system is in a state of great depression, and, by its diminished action, permits carbon to accumulate in the blood, instead of eliminating it, as in health, from the skin and bronchial surfaces. The increased morbid excitability of the ganglionic system is occasioned by the absence of sulphuretted hydrogen from the large intestine; while the depressed state of the spinal respiratory system is occasioned by a want of free electricity in the atmosphere to excite the respiratory surfaces." In these assertions of Mr. Blacklock's, much has been assumed which can be easily disproved. The punctiform eruption of the intestines, considered by the author a cause of the morbid actions in cholera, is well known to every pathologist as the result of irritation in the mucous follicles of the intestines; and may be seen in most cases of fever, dysentery, and other intestinal diseases terminating in this textural change. The acidity of the exudation from the bowels has been also taken for granted, but Dr. Parkes's examination of the intestinal discharges of cholera shows them to be markedly alkaline.

In prevention of Cholera, Mr. Blacklock, on the ground of his fanciful hypothesis relative to the cause of the disease, recommends "daily doses of sulphur, with a pea diet, from affording sulphuretted hydrogen, as extremely valuable in arresting the ganglionic over-excitement in which the morbid sensations have their origin": but we are extremely sceptical as to the propriety of this advice, and need not further enter on his general system of treatment, which comes not recommended to us by any experience of its efficacy.

Dr. Collier's "Code of Safety" enforces its maxims in the form of aphorisms, which are generally given with good sense, and apparently accurate knowledge of the laws by which contagious diseases spread, and epidemics prevail. Under head 17, it is said with truth, that "contact with the sick, or breathing an atmosphere in common with them, or infection, as it is called, will not of itself cause any epidemical attack; but it may, and often does, concur with other causes in producing the spread of the malady. To say that this or that particular epidemic or endemic disease is or is not contagious or infectious, is vain and equivocal; since a community of habits, and of living, and of sympathies, and of climate or atmosphere, and of planetary influence, and of impress under weather, may assist in developing a pestilence which otherwise would not occur." For information on other points, we refer to the little volume itself.

Under the impression that there are grounds for believing that those affected with Cholera, either by contagion, or by the creation or extension of a choleraic atmosphere, do communicate the disease, or in some way render others liable to be attacked, it was deemed prudential, during the late prevalence of cholera in Dumfries, to enforce strict isolation of the inmates of the Crichton Institution for lunatics, and cut off all communication between them and the infected locality. The experiment appears to have been attended with most complete success; for while four hundred and thirty individuals died, and a thousand were ill of cholera, in the neighbouring town, the community of the Institution remained free from the prevailing disease, and enjoyed unprecedented health. This general exemption was owing, perhaps, in a great measure, to the superior elevation of the site of the building, which placed its inmates above the stratum of atmosphere which contained the choleraic

poison. A similar exemption, and under similar circumstances, from the poisonous effects of malaria, is known to take place in the marshy districts of Italy.

It is still premature to sum up these notices of publications on Cholera, while so many new ones are constantly appearing; and till we have had an opportunity of considering various important memoirs, which have recently appeared in foreign countries. In the mean time, we would simply direct attention to the great fact of Cholera being a poison-disease; that it is in the blood that morbid changes first arise; and that it is chiefly from careful and extended researches into the chemical and physical changes which this fluid undergoes, from the contamination of the cholera-poison, that a right bias is likely to be given to our search for a rational system of treatment.

The memoir by Dr. James Bird, (the first portion of which appears in the present number), affords us much accurate information regarding the true nature of the disease; and we have received from Dr. Garrod another important contribution to the pathology of Cholera, which will appear in the May number. To the very valuable communications of Dr. James Bird and Dr. Garrod we beg specially to direct attention.

(To be continued.)

Surgical Experience of Chloroform. By James Miller, Esq., F.R.S.E., Professor of Surgery in the University of Edinburgh, etc. etc. 8vo. pp. 60. Edinburgh: 1848.

This is an entertaining, sprightly, and instructive little book. It formed the substance of three introductory lectures delivered by the author, in November last, at the commencement of his annual course on systematic surgery. This circumstance is pleaded as an apology for the familiar style of the composition.

Mr. Miller's pamphlet consists of an historical introduction and twenty-seven brief sections.

The "historical introduction" contains a rapid sketch of the discovery and practice of ætherization in surgery; after which comes an account of Dr. Simpson's search for, and finding of, that which in most circumstances is a better anæsthetic agent—Chloroform. We had often heard of Chloroform parties being fashionable in Edinburgh, but Mr. Miller's graphic picture transported us at once to Dr. Simpson's dining room, whither it may not be uninteresting for our readers to return with us. We therefore quote the passage.

"My friend Dr. Simpson had long felt convinced that some anæsthetic agent existed superior to ether; and, in the end of October 1847, being then engaged in writing a paper on *Etherization in Surgery*, he began to make experiments on himself and friends, in regard to the effects of other respirable matters—other ethers, essential oils, and various gases: chloride of hydro-carbon, acetone, nitrate of oxide of ethyle, benzin, the vapour of iodoform, etc. The ordinary method of experimenting was as follows:—Each 'operator' having been provided with a tumbler, finger-glass, saucer, or some such vessel, about a teaspoonful of the respirable substance was put in the bottom of it; and this again was placed in hot water, if the substance happened to be not very volatile. Holding the mouth and nostrils over the vessel's orifice, inhalation was proceeded with, slowly and deliberately; all inhaling at the same time, and each noting the effects as they advanced.

"Most of these experiments were performed after the long day's toil was over—at late night, or early morn; and when the greater part of mankind were soundly anæsthetized in the arms of common sleep. Late one evening—it was the 4th of November 1847—on returning home after a weary day's labour, Dr. Simpson, with his two friends and assistants, Drs. Keith and J. M. Duncan, sat down to their somewhat hazardous work, in Dr. Simpson's dining-room. Having inhaled several substances, but without much effect,

it occurred to Dr. Simpson to try a ponderous material, which he had formerly set aside on a lumber-table, and which, on account of its great weight, he had hitherto regarded as of no likelihood whatever. That happened to be a small bottle of chloroform. It was searched for, and recovered from beneath a heap of waste paper. And, with each tumbler newly charged, the inhalers resumed their vocation. Immediately an unwonted hilarity seized the party; they became bright-eyed, very happy, and very loquacious—expatiating on the delicious aroma of the new fluid. The conversation was of unusual intelligence, and quite charmed the listeners—some ladies of the family, and a naval officer, brother-in-law of Dr. Simpson. But suddenly there was a talk of sounds being heard like those of a cotton-mill, louder and louder; a moment more, then all was quiet, and then—a crash. On awaking, Dr. Simpson's first perception was mental—'This is far stronger and better than ether,' said he to himself. His second was, to note that he was prostrate on the floor, and that among the friends about him there was both confusion and alarm. Hearing a noise, he turned round and saw Dr. Duncan beneath a chair; his jaw dropped, his eyes starting, his head bent half under him; quite unconscious, and snoring in a most determined and alarming manner. More noise still, and much motion. And then his eyes overtook Dr. Keith's feet and legs, making valorous efforts to overturn the supper-table, or more probably to annihilate everything that was on it; I say, more probably; for frequent repetitions of inhalation have confirmed, in the case of my esteemed friend, a character for maniacal and unrestrainable destructiveness—always, under chloroform, in the transition stage.

"By and bye, Dr. Simpson having regained his seat, Dr. Duncan having finished his uncomfortable and unrefreshing slumber, and Dr. Keith having come to an arrangement with the table and its contents, the *sederunt* was resumed. Each expressed himself delighted with this new agent; and its inhalation was repeated many times that night—one of the ladies gallantly taking her place and turn at the table—until the supply of chloroform was fairly exhausted. In none of these subsequent inhalations, however, was the experiment pushed to unconsciousness. The first event had quite satisfied them of the agent's full power in that way. Afterwards, they held their wits entire, and noted the minor effects on themselves and each other. Though the specimen of chloroform was by no means pure, yet they found it much more agreeable and satisfactory in every way, than anything else which they had formerly tried; and it required no vote of the party to determine, that at length something had been found 'better than ether'. 'The festivities of the evening did not terminate till a late hour'—3 A.M. The latter part of the time, however, had not been devoted to inhalation. The small stock of chloroform having been speedily exhausted, research was busy, among chemical authorities, to find the best formula for making more. The formula was found; the same morning, Mr. Hunter, of Duncan, Flockhart and Co., was pressed into the service of restoring the supply: and from that day and hour there was, for many months, no respite for that gentleman. Working with an ordinary retort, he could not make chloroform fast enough for the consumption of Dr. Simpson and his friends; and relief came only with a better mode and larger scale of production."

The Mode of Administration recommended by Mr. Miller, is with "the handkerchief, lint, or glove,—arranged somewhat after the fashion of a cone, the interior of which suffices to hold mouth and nostrils comfortably,—saturated with pure chloroform, held at the distance of a few inches, and then gradually brought nearer, until mouth and nostrils are fairly included. And then it is held loosely on the face,—unless rapidly changed for an increase of dose,—until the desired stertor and unconsciousness have occurred." Although accidents may not have arisen, from this method of administration, in Edinburgh, it must be remembered that all the deaths from chloroform, mentioned in the discussion in the French Academy of Medicine, occurred

in cases in which the handkerchief had been used. It would therefore appear, that when a suitable apparatus is used, a due admixture of atmospheric air with the chloroform vapour is better secured, and the danger of death from asphyxia prevented. The handkerchief may, of course, be so employed as to give ample entrance to air, yet it requires great care and a constant recollection of the fact, if the patient have not his blood oxygenated whilst inhaling the chloroform, he must of necessity die. We strongly demur to Mr. Miller's instructions, that "the mouth and nostrils are to be fairly included"; but we go along with him in advising atmospheric air as the best restorative. (p. 23.) Quietness, and the avoidance of talking, are recommended, and very properly so: for, with the opposite conditions, much unpleasant excitement may be caused.

Anæsthesia in Dislocations, and also in Hernia, is of much service, wonderfully facilitating reduction, by inducing a state of complete muscular inertia. Mr. Miller gives cases in support of this statement; and since the publication of this pamphlet, he and others have sent accounts of similar cases to the Journals. We propose to return to this subject when we come to speak of the surgical uses of chloroform in the "Digest". Anæsthesia lends much assistance in treating irritable strictures, and in examining injuries. A thorough manipulation may be made, and a correct diagnosis formed, which, in other circumstances, the dislike or danger of subjecting the patient to pain, might prevent, or render impossible.

Lithotomy in Cases of Diseased Kidney, may be rendered both warrantable and hopeful, according to the author, by anæsthesia.

"If a stone patient have coagulable urine, which is also purulent-looking, thick, and fœtid; if he be thin, pale, exhausted, and suffer much from pain in the loins—the surgeon is sadly averse to cutting him: for this simple and sufficient reason—'He will die'. That is the ordinary prognosis in such cases; warranted by experience. The risk is, that the shock of the operation will act untowardly on the renal symptoms; and that, by aggravation of these, life will speedily be overborne. By chloroform, is it not more than probable that this risk will be either in great measure or wholly obviated? And, in consequence, may not surgeons be warranted in affording relief, by their art, to patients who otherwise would have been left a helpless prey to the most miserable disease. Formerly, no surgeon would meddle with him, for a two-fold reason; one half selfish, the other humane; risk to reputation, and risk to life. Now, he is cut as another patient; but, if possible, with still greater care; and the result hoped for is, not that the operation, by its primary effect, acting unfavourably on the renal disease, will kill; but that the operation, by its secondary effect, successfully removing the irritating and disease-engendering stone, will act *favourably* on the kidneys, and tend to give the patient a double delivery; first from the stone, and then, more gradually, from renal trouble also. And the same kind of reasoning may also be applied to cases of diseased bladder, complicating calculus. Here is an example to the point. A boy, eleven years old, was admitted, under my care, in the Hospital, on the 29th of January last. Since four years of age, he had suffered constantly from 'stoppage in his water'; but the complaint had become much worse during the last two years. In addition to the ordinary symptoms of stone, he had a wasted, wan, miserable look about him, very suggestive of kidney disease; his water continually dribbled from him, his prepuce was angry and long through much pulling, he stank urinously, and his face wore an unbroken expression of pain. There was pain over the kidneys, as well as in the vesical region; the urine was coagulable by nitric acid and by heat, occasionally bloody, almost always turbid, depositing a white sediment; and this sediment was found to contain both blood globules and pus, besides abundance of the phosphates. A day or two after admission, I made an attempt to sound him; scarcely expecting to find a stone—

so marked was the *renal expression* in the case. Stupidly I did not employ chloroform, and I had at once to desist. The entrance of the instrument caused a shriek of agony; and, clasped tightly by spasm of both urethra and bladder, the sound could not be moved. Some days afterwards, under chloroform, I made a deliberate examination, found a stone of some size, and diagnosed also disease of the bladder's coats; the boy, on awaking, did not know anything had been done to him. The stone detected, the serious question arose—what to do with it? Allow it to remain, and miserably wear out the patient; or remove it by operation, and give the lugubrious chance of permanent relief or speedy death, preponderance bearing strongly on the latter? The result of consultation was—to delay operation in the meantime, and to treat the case medically. This was done; and under the ordinary remedies, both renal and vesical symptoms became very decidedly subdued. Still, however, there remained the pain, incontinence, bad urine, and misery. The boy begged to have the stone away, the friends submitted to the alternative, and, trusting to chloroform (I speak of earthly trusts), I determined on operating; although still dissuaded from it, as a hopeless undertaking, by at least one of my colleagues. On the 12th of April (the boy had thus been nearly three months in probation) I performed the ordinary operation of lithotomy, with full anæsthesia of the patient; and was extremely careful to limit the prostatic incision as much as possible. A stone was removed, composed chiefly of lithic acid, about the size of a walnut, and marvellously rough and sharp on the surface. The boy awoke after having been some time back in bed, felt no pain or distress, and expressed great delight and comfort in the change of condition—of which he seemed to become very speedily aware. The narrative of after treatment need be but short. He never had a bad symptom. On the 17th of May, he was 'dismissed cured'; little or no pain in the back, micturition almost natural, urine still slightly coagulable; fat, plump, rosy, laughing—a very different boy from him who entered the Hospital. Some time since I heard of him, through my friend Dr. Small, whose patient he was in the country; and, I am glad to say, he reported him 'quite well'. Now, without chloroform, or other anæsthetic, I believe that boy would have been this day in his grave; either worn out slowly and miserably by combined renal and vesical disease; or perished, very speedily, under an abortive lithotomy."

Among the other topics discussed by Mr. Miller, are the following:—"Anæsthesia is of unspeakable advantage in saving the feelings of delicacy and modesty in women"; "Chloroform, as an anæsthetic, has a decided advantage over ether"; "In what cases is anæsthesia inadmissible?" "Is life saved as well as pain?" This latter question, the author has no doubt, will ultimately be answered in the affirmative, by statistical inquiries, now in progress.

The pamphlet concludes with the following tribute to Dr. Simpson, "whose rare fortune it has been to introduce this wonderful agent."

"Gifted with talents that are given to few; armed with a zeal and enthusiasm which are absolutely indefatigable; restless and eager; yet withal careful and scrupulous in research for truth; full of a pure and large-hearted benevolence—he has made many discoveries and improvements, in his profession, which are of themselves well capable of transmitting his name safe and honoured to posterity. But all are eclipsed in this, his latest and his best. We admire his talents; we praise his zeal; we rejoice in his success; and while we honour his genius, we love the man.

"And there is one duty more. 'Let us cease not to extol Him who is all bountiful, as He is omniscient and almighty'; who has been graciously pleased, in these latter days, to mitigate in part the temporal punishment which sin had brought into the world; who 'is of great kindness, and repenteth Him of the evil; who retaineth not His anger for ever, because He delighteth in mercy.'"

Remarks on Chloroform in Alleviating Human Suffering. Addressed particularly to the Female Sex, showing that there is no Scriptural Authority to interdict its administration for the mitigation of physical pain under any circumstances. By W. H. Bainbrigge, Esq. 8vo. pp. 43. London: 1848.

Mr. Bainbrigge "addresses himself particularly to the female sex," and insists (as Dr. Simpson had done before), that it is absurd to suppose that the primeval curse is a direct interdict by Heaven, against the use of anæsthetic agents in parturition. We recommend all who are curious on this point, to peruse, along with Mr. Bainbrigge's pamphlet, the very ample and learned discussion of the same subject, by Dr. Simpson, in a tract entitled "*Answers to the Religious Objections advanced against the employment of Anæsthetic Agents in Midwifery and Surgery*", published in 1847, by Messrs. Sutherland and Knox, of Edinburgh; and also a more recent pamphlet on the same subject (London, 1848), by Dr. Protheroe Smith, with an appendix by Dr. Simpson.

The Advantages of Ether and Chloroform in Operative Surgery. An Address delivered to the Harveian Society, on the 9th of February, 1848. By T. B. Curling, Lecturer at Surgery in the London Hospital, etc. 8vo. pp. 36. London: 1848.

Mr. Curling was an early and able advocate in favour of anæsthesia in surgery; and though much has occurred since the date of his pamphlet, to elucidate the properties of Chloroform and Ether, and their advantages and disadvantages in surgical operations, yet there is nothing stated by him which is not entirely in accordance with our present knowledge. "Anæsthetic agents" says the author, "must be prized, not only for their perfect power of annulling pain in all its varieties and degrees of intensity, but still more for their remedial influence in relaxing muscles, lessening constitutional disturbance, and diminishing the mortality of operations."

A Popular Essay on Anæsthetic Agents for procuring Painless Operations, particularly on the Action and Effects of Chloroform in Surgery and Midwifery, but more especially in Dental Surgery. By William Henry Mortimer, Surgeon Dentist. 8vo. pp. 32. London: 1847.

Mr. Mortimer does not recommend the indiscriminate use of Chloroform in operations on the teeth. He says: "Where the patient can submit to the operation without its aid, I certainly think it ought to be dispensed with. Still, I am free to admit that, as I find, upon experience, that it continues to justify all the favourable indications here stated, I shall not any longer offer (as I did with ether) any obstacles to its use, when it is requested, and shall feel myself bound to avail myself of its aid in all complicated cases; for with its assistance, the difficulty of effectually removing deep-seated fangs will be considerably lessened, and the removal of double teeth very much facilitated. I am in hopes that it may prove of great service in another branch of dental surgery, having reference rather to prevention than cure. I allude to the deadening of the nerve, during the process of stopping teeth with gold. The pain attendant on this operation often frustrates our endeavours, and we are either obliged to abandon it altogether, or very ineffectually to perform it."

On the Use of Chloroform in Dental Surgery. By J. Chitty Clendon, Surgeon-dentist to the Westminster Hospital, 8vo., pp. 20. London: 1849.

Mr. Clendon's pamphlet contains a number of very sensible remarks, the result of experience and reflection. He conceives that the unpleasant effects which are often induced by the inhalation of the vapour of Chloroform have

been too often suppressed or glossed over. For example, the sickness which is so common is not generally mentioned ; and this is wrong, because the patient and his accompanying friends may be alarmed at what, if prepared for, they would easily be led to regard, as indeed it is—an unimportant occurrence. The sickness is "seldom accompanied by retching or straining, the food being ejected as readily as the milk from the stomach of an infant." Certain serious inconveniences, arising from anæsthesia, in extracting teeth, are pointed out, and the opinion is expressed, that Chloroform is less adapted for dental than for other kinds of surgical operations. "If," says he, "I were merely to study my own convenience, I should very seldom avail myself of it ; and for this very satisfactory reason, I can, in general, easily accomplish all I have to do without it. A few moments suffice to extract a tooth ; no preparation is required ; and the operation over, there is no further trouble. Should there be any difficulty in the way of its removal, as is sometimes the case, it would certainly not be diminished by placing the patient in a state of insensibility. In the first place, while inhaling, patients, from restlessness, will frequently stretch out their legs and slide down in the chair ; at the same time, the head, from their inability to support it, falls forward, or on either side, in a position very inconvenient for removing teeth. From such a posture it would be very desirable to raise them ; but, owing to their entire helplessness, this is exceedingly difficult to accomplish, especially if the patient be at all weighty. Fearing the effort might disturb them, I seldom attempt it, but kneel down, so as to place myself on a level with the mouth, and thus proceed to remove the teeth—operating, of course, to a great disadvantage. The teeth, too, are sometimes firmly clenched, rendering it necessary to use some degree of force to open the mouth. This occasions loss of time, and also tends to disturb the patient. A gag placed between the teeth, to keep the mouth open, previous to inhaling, has been suggested. I have tried several contrivances of this kind, and find them more easy in theory than in practice. The very proposition is startling to patients, who, if they comply, generally contrive, intentionally, or unintentionally, to eject it during the inhalation. It is also more difficult to inhale with the mouth wide open : and, even if there were not these objections, it would be found very much in the way in operating. Fortunately, it is not often required : the mouth can generally be opened, and kept so by the insertion of the finger ; but I mention it as one of the difficulties which sometimes arise from the use of Chloroform. During inhalation, the mouth becomes filled with saliva, sometimes of a frothy character ; and, when one tooth has been removed, the blood which flows, mixes with the saliva, and effectually conceals the remaining teeth or roots from view. The patient being insensible, does not eject this ; the blood and saliva continue to flow, and you proceed to remove the remaining teeth or roots, with no other guide than a previous knowledge of their respective situations, and the point of the finger to direct the instrument. Using an elevator under such circumstances, in neither an easy nor trifling affair." The effects produced in one hundred consecutive cases are thus given :—

Excitement, only	3
Consciousness, sensibility, with loss of motor power	5
Struggling during inhalation, and during operation, with insensibility to pain	12
Tetanic contraction of muscles during inhalation, with insensibility	7
Insensible to pain, consciousness retained	9
Unconsciousness, insensibility, with loss of motor power, gradually and quietly endured	64
	100

Mr. Clendon details some cases in which, but for Chloroform, important operations on the mouths of nervously timid persons could not have been

attempted, though their performance was known by the patients to be essential to the preservation or restoration of their general health.

We recommend the pamphlet of Mr. Clendon as giving a very impartial estimate of the advantages and drawbacks connected with the employment of anæsthetic agents in dental surgery.

On the Inhalation of the Vapour of Ether in Surgical Operations: containing a Description of the various Stages of Etherization, and a Statement of the Result of nearly Eighty Operations in which Ether has been employed, in St. George's and University College Hospitals. By John Snow, M.D. Lond. 8vo. pp. 88. London: 1847.

At the date of this publication, Chloroform had not been announced by Dr. Simpson; but, still, as affording a good account of etherization, and as containing a great many general remarks applicable to all of the anæsthetic agents now in use, we consider this pamphlet very important. The value of Ether is well pointed out, in cases in which it was necessary to relieve strictures of the urethra, reduce dislocations, replace herniæ, and keep the patient at rest.

The Brain the sole centre of the Human Nervous System. By Edwin Lee, Member of several of the principal European Medical and Chirurgical Societies. (Read before the Royal Society, May 1848.) Edinburgh: Stark and Co. 1848.

This pamphlet, containing the substance of a paper read before the Royal Society of Edinburgh (*not that of London, as the title-page would seem to imply*), differs from those which ordinarily come before us, inasmuch as it appears under protest against the decision of the council of the Royal Medical and Chirurgical Society of London, which decision was adverse to the presentation of the paper for reading before that Institute. There are other points between Mr. Lee and the council, alluded to with much bitterness, but with them we have no concern, as they are entirely personal. If we might hazard a conjecture as to the cause for rejection of this paper, we should say, that it arose from the communication being little more than a compilation from the opinions and writings of others. Certainly seven-tenths of its substance are made up of such matter, and we cannot say that the small portion which claims originality is, in our opinion, sufficiently remarkable either for novelty, value, or interest, to deserve the importance attached to it by the author.

Dissertation on Scientific Nomenclature, Medical and General, exhibiting the Defects, Anomalies, Errors, and Discrepancies of its present Condition, with Suggestions for its Improvement. By R. G. Mayne, M.D. London: Churchill. 1849. Post 8vo. pp. 82.

The author of this work criticises, with justice, many of the technical and other words in use in scientific nomenclature, and measures them by the standard of classical etymology. That multitudes of terms, scientific and anatomical, are in the highest degree faulty, cannot be denied; but it would be a difficult task, and one likely to lead to much confusion, to alter familiar terms, with which certain ideas are connected, merely to render them more strictly classical. If the language of medicine and of science is to be remodelled, let it be placed on a good foundation, and let the names applied have direct reference to the uses and homologies of parts, the composition of materials, or the characteristics of disease, so that a distinct idea may at once be presented to the mind, in place of the vague notions conveyed by terms, having their origin in the fancy of the old physicians and anatomists. We must, however, admit that the work before us is characterized by great learning and much earnestness; and although it may not succeed in attaining the object in view, it is at all events a step in the right direction.

On the Nature of Limbs: A Discourse delivered on Friday, February 9, at an Evening Meeting of the Royal Institution of Great Britain. By Richard Owen, F.R.S. pp. 119. London: 1849.

The publication of this discourse, immediately after its delivery, was, we presume, for the purpose of obviating any misconception, by imperfect reports, of the meaning or views of the learned author; and after a careful perusal of the work, we think that such a proceeding was judicious.

The subject treated of, is the general and serial homologies of the locomotive extremities of the vertebrate series of animals. It is taken for granted that certain limbs or locomotive members, which, according to their speciality of form, have received special names, are answerable or "homologous" parts; that the arm of the man is the fore-leg of the beast, the wing of the bird, and the pectoral fin of the fish. This special homology has long been discerned and accepted, but the general homology of the parts, or their relation to the vertebrate archetype,—in short, their "*bedeutung*" or essential nature, is not generally known. It is to the solution of this problem that the lecture is devoted.

The Professor first points out the varied forms of the locomotive organs of the vertebrata, drawing a comparison between the pectoral fin of the dugong, the fore limb of the mole, the wing of the bat, and the leg of the horse. Having then taken a view of the formation of the skeleton of the hand and arm in man, he proceeds to compare with it the corresponding limb of the hoofed animals, showing how the same type has governed the formation of both, and how the resemblance is continued in the trowel of the mole and the wing of the bat; the chief change being, that whatever is elongated and attenuated in the bat, is shortened and thickened in the mole. We might at first sight be little prepared to find the full number of joints or segments in the simple burrowing limb of this little animal, much less could we expect them to exist, hidden beneath the undivided sheath of the fin of the dugong or whale! but they are there, the type is still adhered to. In the corresponding fin of the fish, one segment of the arm is abrogated, but still the elements of the hand, the wrist, and the fore arm, are recognizable. In the *Muræna* and *Anguis* the scapular arch alone remains, the appended limb being lost; and lastly, in ordinary serpents and cyclostomous fishes, all trace of both arch and appendage has vanished.

The bilateral symmetry of the body, and the parallelism existing between the skeletons of the fore and hind limbs, are then dwelt upon at length, and the views of Vicq D'Azyr analyzed. An interesting account is given of the modifications and order of disappearance of the digits in various animals, and it is shown that "the high characteristics of the human arm and hand are manifested by the subordination of each part to a harmonious combination of function with another, by the departure of every element of the appendage from the form of the simple ray, and each by a special modification of its own; so that every single bone is distinguishable from another; each digit has its own peculiar character and name; and the thumb, which is the least constant and important of the five divisions of the appendage in the rest of the class, becomes in man the most important element of the terminal segment, and that which makes it a 'hand,' properly so called.

"In the pelvic, as in the scapular extremity, the same digit, which is the first to be rejected in the mammalian series, becomes as it were the 'chief stone of the corner', and is termed, *par excellence*, the 'great toe'; and this is more peculiarly characteristic of the genus *homo* than even its homotype the thumb; for the monkey has a kind of *pollex* on the hand, but no brute animal presents that development of the *hallux*, on which the erect posture and gait of man nearly depend." (p. 37.)

The author then enters at length, with his usual ability, into a consideration of the general homology of the scapular and pelvic arches, but our

space will not admit of our following him through the details; he points out the difficulties which surrounded the theories of Oken, Gœthe, and Geoffroie St. Hilaire, and having displayed their fallacies, puts forward, in the most convincing manner, his own interpretation. The tendency of his reasoning is to the solution of the question, propounded at the commencement of the discourse, that in their relation to the vertebral archetype, the human hands and arms are parts of the head—diverging appendages of the costal or hæmal arch of the occipital segment of the skull, and that arms and legs are developments of costal appendages. They are not ribs that have become free, as defined by Oken, although liberated ribs may perform analogous functions, as in the serpents and the *draco volans*.

The remainder of the Discourse is devoted to the contemplation of the abstract archetype skeleton, and the Professor thus eloquently concludes:

"The archetypal idea was manifested in the flesh under divers such modifications, upon this planet, long prior to the existence of those animal species that actually exemplify it. To what natural laws or secondary causes the orderly succession and progression of such organic phenomena may have been committed, we as yet are ignorant. But if, without derogation of the Divine Power, we may conceive the existence of such ministers, and personify them by the term 'nature', we learn from the past history of our globe, that she has advanced with slow and stately steps, guided by the archetypal light, amidst the wreck of worlds, from the first embodiment of the vertebrate idea under its old ichthyic vestment, until it became arrayed in the glorious garb of the human form." (p. 86.)

We are conscious that our brief abstract by no means does justice to this very profound and suggestive Lecture. It fully sustains the reputation of its distinguished author, and it would not be easy to say more in its recommendation.

The work is illustrated by woodcuts and plates, and elucidated with voluminous notes.

Pathologia Indica, or the Anatomy of Indian Diseases, based upon Morbid Specimens, from all parts of the Indian Empire, in the Museum of the Calcutta Medical College: illustrated by Detailed Cases, with Comments, Physiological, Historical, and Practical. By Allan Webb, B.M.S., Professor of Descriptive and Surgical Anatomy in the Calcutta Medical College. 8vo. pp. 340. 2nd edition. Calcutta: 1848.

The Science of Medicine had scarcely emerged from the obscurity in which the artificial and conventional arrangement of nosological systems, and the dogmas of the schools, had involved it, when men began to perceive that the basis of a more correct method of investigating diseases must be founded on a knowledge of morbid alterations of structure, in relation to the symptoms by which they are indicated. Malpighi, Valsalva, and Morgagni, by their researches and example, took the lead in this career of improvement. They recommended observation and experience, in connecting a close observance of symptoms, during life, with a careful examination of morbid structural changes in the dead body, as the foundation of more exact medical knowledge; rightly instructing their pupils to study nature and collect facts, because, as Malpighi said, "systems are ideal and mutable." The valuable publications, on morbid anatomy, of Dr. Baillie in England, and M. Portal in France, still more recommended, in modern times, this mode of studying disease, so as to obtain a more accurate diagnosis, along with an improved method of treatment. The cultivation, however, of morbid anatomy, on the exclusively organic doctrines of the solids, was pursued without a due estimate of the more important part, which the fluids and deranged constitutional functions perform in the production of morbid structure. The influence of the vital principle, and the change of the fluids, which precede and regulate

the law of textural changes in the various tissues, embracing excess or defect of nutrition, perversion of secretion, and deposition of particular substances, were not sufficiently recognized in the theory of disease, till the publication of M. Andral's *Clinique Médicale*, in 1825; before which time pathology was scarce known as more than pathological anatomy. Since then, pathological research has taken a decided direction towards the humoral doctrines of the older writers—to be conducted for the future, we should hope, with that due regard to analytical and synthetical investigation of facts, which, uninfluenced by the fashion of the day, may secure for medicine the rank of a more exact science than it now enjoys.

Pathology, in this, its most extended signification, if not the sole essential element in a medical education, may be considered as the most important branch of medical knowledge: for without it, as well might the physician endeavour successfully to restore health to the morbid and diseased functions of the human frame, as that he could expect to see regularity restored to the deranged movements of a time-piece, by one unacquainted with its mechanism. Yet equally unreasonable, as such an expectation would be, are the anomalous and presumptuous attempts of the every-day pretender to medical knowledge, who blindly adventures to control the complicated machinery of the animal economy, without any adequate acquaintance with pathology, the most essential branch of his profession. So necessary, indeed, is this study to the successful treatment of disease, that we cannot withhold the expression of our regret that the medical authorities of this country, constituted for the better regulation of medical practice, as applicable to public health, do not make an attendance on pathological lectures, and a knowledge of pathological principles, indispensable to their examination for license. The College of Physicians have, however, introduced into their examinations, this most necessary subject, but without specifying it in their regulations; and understanding it "to comprise a knowledge of such propositions as have a reference to the structure and functions of the human body." The College of Surgeons only require an acquaintance with pathology from those examined for the Fellowship; and no mention is made of it among the requisites for the license by the Society of Apothecaries, which is surprising, considering the really useful and comprehensive education exacted by that Corporation. Six months' study of general pathology is demanded by the Medical Department of the British army; but no such proviso is specified among the qualifications necessary for the East-India Company's medical service: and it is lamentable to think that the acquisition of such essential knowledge is not more insisted on by public departments. It is also most discouraging to remember that the Professor of General Pathology in Edinburgh,—the most ancient and once the most renowned British School of Medicine, should be an alien from the ranks of science—a wavering dabbler in infinitesimal doses.

While we see much necessity for reform on this head, in the public departments, we gladly hail the valuable publication which heads this article as an earnest of the rich harvest of information which we may expect from the zealous co-operation of the intelligent medical officers of the Indian army with their medical brethren in Europe and elsewhere, in instituting a more extended system of investigation into diseases, through every region of the globe.

The present is an improved and greatly extended edition of a work, first published at Calcutta in 1844, giving an account of the pathological preparations in the museum of the Bengal Medical College, the foundation of which was the museum of the Medical and Physical Society there. Professor Webb, on his appointment to the anatomical chair of the medical college, took charge of the pathological preparations in this museum, but without receiving a classified catalogue of them based on any principles of systematic arrangement. Duly estimating the importance of the museum, as connected with the subject of medical education in the college, the Professor's first

care was to classify the various preparations which had been collected, and to describe them in a proper catalogue, "registering facts of practical existence, in order to aid the research and inquiries of officers of the medical service in general throughout India." The mass of facts already accumulated will serve, as he anticipates, "to fix the *pathology of India*, and remove many false impressions that exert an injurious influence upon the practice of medicine in that country," and will also in part supply the absence of books and sources of reference, a want which the young practitioner there but too frequently finds to be matter of deep regret. Had the work no other ground of recommendation than the last, it would alone be sufficient to secure for it the attention of the whole medical profession of India, as being, *cæteris paribus*, a book of very great utility, which ought to be in the hands of every practising medical officer of the Indian army. It has, however, higher and more substantial claims to their consideration, to that of all interested in Indian pathology, and of those desirous of seeing Indian disease treated on the best and surest foundation, clinical illustration of diseases, viz., of the blood-vessels, air passages, heart, lungs, liver, kidney and urinary organs, combined with practical observations on treatment, with reference to the most recent and best-received opinions on the subject.

The work now published is of too great an extent for us to attempt any analysis of its contents, embracing as it does matters of high interest and disputed opinion on various diseases. The pathology of blood lesions, and the history of several epidemic diseases, in which death of the blood corpuscles, and consequent shrivelling of their vesicular envelopes, and loss of their normal respiratory functions, were probably common to all, is illustrated by most interesting comments on the analogy of cholera and the sweating sickness. The ample field which Calcutta affords for investigating the morbid changes of the fluids which occur in cholera, will not, we hope, be left uncultivated by Professor Webb ; but that he will be induced to turn it to good account, by giving us a complete chemical analysis of all diseased secretions in cases of cholera. We have only space to admit of one extract, and an important one too, as far as its analogy concerns the primary change that takes place in choleraic blood.

"The action of sulphuretted hydrogen gas is generally admitted to depend on the same poisonous effects as malaria. *But how does it act?* By stopping endosmosis, preventing the pulmonary cell-membrane from either admitting oxygen to the blood, or emitting carbonic acid gas from it. Thus a man may die from it as rapidly *asphyxied*, stifled, as if he were hung or drowned. This is evident from Professor Matteucci's experiments upon endosmotic action. A fact, still more difficult of explanation, is the agency of sulphuretted hydrogen in immediately checking the process. As soon as the least putrefaction commences in the membranous septum, the endosmose ceases, and the liquid returns by filtration ; and if a fresh membrane be exposed, even for a short time, to sulphuretted hydrogen, no endosmose will take place through it, even between two liquids ordinarily most energetic in their action on one another. In like manner, the introduction of a very small quantity of sulphuretted hydrogen into the liquids employed is sufficient to retard or check the process, even though these liquids, when pure, are powerful supporters of the endosmotic current."—p. 218.

We cannot do better than recommend this volume to our professional readers.

Pathology of the Human Eye. By John Dalrymple, F.R.C.S. Fasciculus 1. Folio. London. 1849.

A characteristic of the present age is the production of illustrated works, far surpassing, in magnitude and beauty, any that have preceded them ; and of all the sciences, none have been more assisted in this way than that of

medicine. A series of faithful delineations of diseases of the eye has been long looked for, and much wanted. In no other organ are the phenomena of disease exhibited so lucidly, and in none is the effect of treatment more marked; but the morbid appearances vary according to the tunic or structure attacked, and it requires nice discrimination, with a practised eye, to decide on the nature of the more obscure and insidious cases. With the exception of those attached to ophthalmic hospitals, there are few surgeons who have opportunities of seeing a sufficient number of examples of diseases of this class, to render them familiar with all their Protean phases, and our professional brethren, especially those in the country, must often be sorely perplexed by a description of practice, in which the seat of disease is so delicate, and of functions so important, that a slight error in diagnosis may be attended with lamentable consequences to the patient, and blast the reputation of the surgeon. It is, therefore, with unusual satisfaction that we hail the appearance of this work. The illustrations to most of the books devoted to the speciality of which it treats, are so bad, that they mislead instead of instructing; but any one conversant with the subject will recognize, in Mr. Dalrymple's plates, the most exquisite and accurate delineations of the diseases they are intended to represent. Each number is to contain four plates, and each plate, six illustrations. In No. I we have Chronic Ophthalmia, Lippitudo, Tinea, Pterygium, Symblepharon, Hordeolum, and Tumor Tarsi represented. A short but lucid description of each disease, with the appropriate treatment, accompanies the plates, so that the usefulness of the work is greatly enhanced by the practitioner having presented to him, at one glance, all the information necessary for recognizing and treating diseases of the eye. No one in the profession is better qualified to instruct in this branch of medical science than the author; and his intentions have been most ably seconded by the skill of the artist, and the enterprise of the publisher.

The Homologies of the Human Skeleton. By Holmes Coote, F.R.C.S., Demonstrator of Anatomy at St. Bartholomew's Hospital. Post 8vo. Pp. 100. London: 1849.

The author of this work states, with justice, that osteology has hitherto been unpalatable to the generality of students, principally from the multitude of barren and unconnected facts with which its details have been overloaded; but that the study of Homologies—*i. e.*, of the relations of corresponding parts—which has been brought to much perfection by Professor Owen—will materially simplify the investigation of the osseous system, human, and comparative. The novelty of the homological doctrines rendered necessary some explanation of the terms and principles, in a book intended for students; and Mr. Coote defines them in a remarkably clear manner. He then passes in review the bones composing the human skeleton, arranging them as thirty-seven or thirty-eight vertebræ, with their appendages. In bringing before the profession, in a simplified form, those views which are rapidly and extensively gaining ground, Mr. Coote has shown a correct appreciation of the requirements of the age. The manner in which he has executed his task, we may add, is deserving of much approbation. To those who are desirous of making themselves acquainted with the mysteries of Archetypal Homologies, we can recommend this work as a faithful guide.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

DISTRIBUTION OF THE NERVES OF THE TONGUE.

The study of the distribution of the nerves to the various parts of the body, has hitherto consisted chiefly in following their course by the aid of the scalpel, so far as they have been easily visible to the naked eye; and their microscopic structure has been observed; but of their final distribution we have little or no account. In the paper before us, published in the *Gazette Médicale de Paris*, December 16th, 1848, of which we purpose giving a brief abstract, M. Bourgery treats of the minute distribution, or "capillary system" of the Nerves of the Tongue. The following nerves are distributed to the tongue on each side:—1, The ninth, or hypoglossal nerve; 2, The lingual branch of the trifacial; 3, The lingual portion of the glosso-pharyngeal; 4, The chorda tympani; 5, Another branch from the facial, which joins the glosso-pharyngeal: 6, A branch of the superior laryngeal; 7, Nerves from the carotid plexus, accompanying the lingual artery. Besides being divided into two lateral halves, the tongue may be considered to consist of an anterior and posterior portion. To the latter are distributed, 1, A portion of the hypoglossal nerve, united with some filaments of the lingual; 2, The posterior internal portion, and some filaments of the anterior external portion, of the glosso-pharyngeal; 3, A branch given off from the facial nerve in the aqueduct of Fallopius, joined to the glosso-pharyngeal; 4, A large branch from the superior laryngeal; 5, A filament from the tonsillar branch of the pneumogastric; 6, Sympathetic nerves from the carotid plexus. In the anterior portion are found, 1, The remaining part of the hypoglossal nerve; 2, The lingual branch of the trifacial; 3, The chorda tympani, united, in man, to the lingual nerve, but remaining distinct in some animals; 4, The anterior external dorsal, and the sub-lingual branch, of the glosso-pharyngeal; 5, The branch from the facial united to the anterior external branch of the glosso-pharyngeal; 6, Nerves from the sympathetic plexus surrounding the facial artery. Of these nerves, the greater portion of the hypoglossal and some filaments of the lingual are alone distributed to the muscular structure, the others to the mucous membrane of the tongue.

1. *The Hypoglossal Nerve.*—After giving off the descendens noni branch, this nerve forms a plexus at the base of the tongue on the external surface of the hyo-glossus muscle, with filaments ftom the lingual and from the sympathetic plexus accompanying the arteries; and these plexuses are repeated on all planes, in the substance of the organ. By the aid of the microscope, M. Bourgery states, he has recognized, *first*, their junction by ganglionic filaments with the plexus accompanying the lingual artery; and *second*, the origin, from the anastomosing arches, of numerous filaments distributed to the muscular structure, and beneath the mucous membrane; the cerebro-spinal nerves, hypoglossal and lingual, being respectively motor and sensory, and the sympathetic filaments presiding over the nutritive functions. Besides the plexus on the hyo-glossus muscle, the following have been observed, formed by the hypoglossal and lingual nerves: 1, In the genio-glossi muscles; and 2, At the extremities of the stylo-glossi. To these may be added, 3, A plexus formed by the hypoglossal and glosso-pharyngeal, in the external portion of the stylo-glossus muscle; and 4, a plexus in the glosso-pharyngeus muscles, formed by the glosso-pharyngeal nerve and the pneumogastric.

These are exclusive of the minute plexuses, which may be discovered, by the aid of the microscope, in every part of the tongue.

The *Lingual Nerve* has a less extent of distribution than the hypoglossal, but is more bulky, in accordance with the common character of the nerves of sensation to be larger in size, but with a less surface of distribution, than those of motion. It is with the internal branches of this nerve, that the hypoglossal forms plexuses on the genio-glossal and stylo-glossal muscles, at the base of the tongue. The *plexus in the genio-glossal muscles* is remarkable for the abundance and extent of its anastomosing filaments. It is composed of, 1, Nerves from the sympathetic plexus, surrounding the lingual artery; 2, The hypoglossal nerve, which here divides into a plexus, formed by eight or ten principal branches, connected by numerous smaller filaments; 3, The lingual nerve, similarly divided, but of a less plexiform appearance. The plexuses are connected on the two sides, and in front they are continuous with those of the stylo-glossi muscles.

Having been thus distributed throughout the tongue in a series of minute plexuses, the hypoglossal and lingual nerves have each their respective final arrangement; the greater portion of the former supplying the muscles, and the latter, for the most part, the mucous membrane.

The following nerves are distributed exclusively to the mucous membrane of the tongue:—The lingual portion of the *glosso-pharyngeal nerve*, the most important of those which are exclusively distributed to the mucous membrane, is divided into an internal and external branch. The internal, the larger branch, is distributed to the parts at the base of the tongue, and supplies exclusively the *papillæ caliciformes*. The external branch, according to M. Bourgery, may be followed with the microscope as far as the point of the tongue. Posteriorly, it forms a plexus with filaments from the internal branch; and from this, according to Valentin, is derived the portion which is distributed to the mucous membrane of the inferior surface of the tongue. Its dorsal branch, the continuation of this portion of the nerve, passes forward parallel to the principal lines of the fungiform papillæ, and expands towards the point of the tongue, where these papillæ abound; hence it would appear to be intended for their supply; but this M. Bourgery cannot positively assert.

The *chorda tympani* is intimately united in man with the lingual nerve; but its distribution has been followed in some animals, in which it is separate, and found to be directed to the dorsal surface of the tongue, to be distributed to the tegumentary membrane. Its function does not appear to have been determined; MM. Bernard and Guarini considering it to be a nerve of motion, while according to MM. Biffi and Morganti, it is a nerve of sensation. This point can only be determined by examining into its real origin.

Another *branch of the facial*, described successively by MM. Richet, Ludovic Hirschfeld, and Gros, is given off in the aqueduct of Fallopius, below the origin of the chorda tympani, and is united with the antero-external branch of the glosso-pharyngeal, with which it forms a plexus around and within the stylo-pharyngeus muscle. It is distributed, with the glosso-pharyngeal, to the mucous membrane, and appears to be a motor nerve.

The *superior laryngeal nerve* of the pneumogastric, according to MM. Cruveilhier and Richet, gives a branch which enters the tongue beneath the internal branch of the glosso-pharyngeal, and is distributed to the mucous membrane as far as near the lingual V.

The *sympathetic nerves*, accompanying the arteries, form numerous anastomoses at all points, with the other nerves of the tongue.

Deferring the consideration of the ultimate distribution of the nerves in the papillary membrane to a future part of his memoir, M. Bourgery gives the following *résumé* of the respective functions of the nerves.

The tongue receives for each of its halves—

1. *Two, or perhaps three, motor nerves:* (*a*) The *hypoglossal*, a large nerve

in proportion to the size of the organ: (*b*) A branch from the facial, presumed to be motor, and anastomosing with the glosso-pharyngeal: (*c*) The *chorda tympani*, supposed by some to be a nerve of motion, by others of sensation.

2. A portion of three *mixed or sensory nerves*, derived from the medulla oblongata: (*a*) The *glosso-pharyngeal*, for the most part a nerve of special sensation, and by which the tongue is placed in relation with the pharynx, fauces, and velum palati: (*b*) The *lingual*, considered by some as the nerve of taste, by others as merely a nerve of sensation; but, at all events, a large branch of the trifacial, the sensory nerve of the fauces: (*c*) A large branch from the pneumogastric.

3. The tongue is richly supplied, in proportion to its size, with *sympathetic nervous plexuses*, accompanying the arteries.

The following is a summary of the manner in which the nerves of the tongue are united with each other:—1. The two nerves of sensation; 2. Each of these with the nerves of motion; the lingual with the hypoglossal and chorda tympani, if the latter be a motor nerve: the glosso-pharyngeal with the other branch of the facial, and with the hypoglossal in the stylo-glossus muscle; 3. The motor and sensory nerves with the plexuses of the sympathetic; 4. The three kinds of nerves on one side are united to those of the other.

The tongue is placed in functional relation, 1. With the motor powers of the "hyo-glosso-pharyngeal apparatus" by the hypoglossal nerves: 2. With the rest of the pharynx, by the glosso-pharyngeal and pneumogastric nerves; 3. With the face, by the facial and trifacial nerves; 4. With the digestive apparatus, by the sympathetic plexuses, and the pneumogastric nerves.

MEMBRANOUS SHEATH OF THE PENIS.

Dr. Gurdon Buck, of New York, describes "a distinct membranous sheath investing the penis, and forming a continuation of the suspensory ligament above, and of the perineal fascia below, which will be best understood by a description of the mode of dissecting it. The penis and scrotum are to be circumscribed at the distance of three fingers' breadth all round, crossing the perineum at the anterior margin of the sphincter. The dissection of the skin and subjacent cellular and adipose tissues is to be made towards the penis, on the level of the fascia lata laterally, and of the perineal fascia posteriorly, and carefully continued on the body of the penis, as far as the corona glandis. An incision is then to be made along the dorsum of the penis, exactly in the middle line, splitting through the suspensory ligament, and extending forwards to the corona, between the dorsal vessel and nerves that run parallel on either side. The adhesions of the sheath along the dorsum are firm, and require careful dissection; the blood-vessels and nerves being raised with it, serve to show the line of adhesion. The dissection being prosecuted laterally as well as inferiorly and at the extremity, the entire corpus cavernosum is enucleated, the muscles of the perineum being raised with the sheath. It is now seen that the suspensory ligament from above, and the perineal fascia from below and laterally, form one continuous membrane with the sheath, enclosing the corpus cavernosum in its cavity, and embracing the corpus spongiosum urethræ between two layers, one of which passes above, and the other below it. The excavated base of the glans adheres inseparably to the outer surface of the sheath, while, by means of its inner surface, it caps the summit of the corpus cavernosum. Its adhesions are most firm at the extremity of the corpus cavernosum, along its dorsal surface, and at the insertions of the erector and accelerator muscles. It is thickest around the corona, along the dorsal surface, and where it forms the suspensory ligament. Zones of vessels run at regular intervals, in the direction of the circumference of the penis, from the dorsal trunk to the

corpus spongiosum, between the layers of the sheath. The cavity formed by the sheath, and occupied by the corpus cavernosum, is limited posteriorly by the triangular ligament. That portion which covers the perineal muscles, and has been described by authors under the name of superficial fascia of the perineum, inferior fascia, and penic fascia, arises laterally from the ascending rami of the ischium, and descending rami of the pubes, as far forwards as the inferior edge of the symphisis, where it forms the suspensory ligament. Posteriorly, it is continued over the transverse muscles, and, folding round their edges, is prolonged upwards into the ischio-rectal fossa. It also sends off, from its upper surface, membranous septa between the accelerator muscles in the middle, and the erectors on each side, to join the triangular ligament; and thus to form three distinct and independent sheaths, that are confounded anteriorly with the common sheath investing the corpus cavernosum. The present statement shews the proper relation of the sheath of the corpus spongiosum and glans penis, which appears to have not been hitherto described by anatomists. The pathological relations, shewn by Velpeau and others to depend on the structure of these parts, with respect to the formation of abscesses, and extravasation of urine anterior to the triangular ligament, are elucidated in this communication. The memoir, of which the above is an abstract, is illustrated by a plate. [*Transactions of the Amer. Med. Assoc.*, Vol. I, p. 367.]

PRACTICE OF MEDICINE AND PATHOLOGY.

CHLOROFORM: ITS USES IN VARIOUS DISEASES. NO. I.

Chloroform has recently been employed in the treatment of various diseases. The following notices, collected chiefly from the medical journals, will give a general idea of the kind of success which has hitherto attended its employment. An alphabetical arrangement of the subjects is adopted.

Asthma. At the Westminster Medical Society, November 27, 1847, Mr. Greenhalgh said that he had exhibited Chloroform, by inhalation of forty minims from a sponge, to a gentleman labouring under attacks of spasmodic asthma, which were generally of some duration. The administration of the dose during a paroxysm almost immediately produced a profound sleep, which continued for two hours; after which the patient awoke, without any of the usual consequences of the attack. Mr. Chandler (*Medical Gazette* for 1847, p. 1106) relates the case of a lady, who was the subject of distressing attacks of spasmodic asthma. In one of these, he resolved to give Chloroform a trial, and accordingly poured half a drachm on a sponge, hollowed to fit the face and nostrils, and held it near the face. Excitement and incoherence were at first produced, with hysterical laughter; but, on applying the sponge close to the face, these were replaced by a state of muscular relaxation and anæsthesia, the respiration gradually becoming more regular. She awoke in about four hours from the state of semi-consciousness produced by the Chloroform, much refreshed; and the following morning, was quite quiet, and had no return of spasm, and no ill effect from the inhalation. The vapour of ether had been previously tried in this case, not only without effect, but with much increase of suffering. M. Leriche, of Lyons (*L'Union Médicale*, 1 Janvier, 1848), administered Chloroform to a young priest, who was suffering from asthma. Twenty drops were inhaled three or four times during the day, with the effect of removing the symptoms, which, with the exception of a slight return on the third day, had not re-appeared at the end of a week.

Bronchitis. At a meeting of the Westminster Medical Society, November 27, 1847, Mr. I. B. Brown mentioned that he had administered Chloroform by inhalation, to a lady suffering from great restlessness and sleeplessness, with some cough, after the subsidence of an attack of acute bronchitis. It took almost immediate effect, and produced two hours of most refreshing sleep. Restlessness, however, returned on awaking, and continued for some

hours; but afterwards she had good nights, and was free from the symptoms above mentioned.—[*Lancet*, December 4, 1847.]

Catalepsy. Mr. F. Bainbridge, of Harrogate, says (*Pro. Med. and Surg. Journal*, April 19, 1848), that he administered Chloroform to a female labouring under catalepsy, with the effect of producing relaxation of the muscles. The patient soon returned to her former state; but the temporary cessation of the symptoms had permitted the internal administration of medicines, which could not be done before, on account of trismus. From that time her recovery commenced.

Cholera. At page 343, we have already noticed the employment of Chloroform in this disease, by Dr. Wm. Robertson of Edinburgh; and in other parts of the same article the trials made with it are mentioned. The *Medical Times* of August 12, and September 16, 1848, contains reports of two cases of cholera, successfully treated with Chloroform, by Mr. Brady, of Harrow. At the Medical Society of London, on October 23, 1848, Dr. Clutterbuck said, with reference to some cases of cholera which had occurred at the Lunatic Asylum at Peckham, "that the administration of Chloroform had been productive of the greatest benefit. The spasms and pain were almost immediately relieved, and the patients became composed, and enjoyed a kind of sleep. These results took place after the use of the Chloroform for about a quarter of an hour. The effects, so far, had been immediately and uniformly good. He considered it much to be preferred to opium, for the relief of the painful spasms attendant upon Cholera." Mr. Garrett described some of the cases in the Asylum at Peckham, in which Chloroform had been given. Some of them were of the most malignant kind; and the patients must have died in the stage of collapse, had not assistance been at hand. The attack came on very suddenly, and all the worst symptoms of the disease immediately developed themselves. Brandy and capsicum were first administered; Chloroform was then resorted to, and appeared to be beneficial in producing reaction. By forced respirations the pulse rose, and by the time the patient was under the influence of Chloroform, the body was warm. [*Lancet*, October 28, 1848.] At the same Society, on November 27, 1848, Dr. Clutterbuck said that "the Chloroform, in all the cases which had occurred, had sustained the character which had been given to it at first; and it was invariably and uniformly successful in relieving the more severe and painful symptoms. He did not regard it a cure for the disease; but it arrested the more imminent symptoms, and gave the patient time to rally out of the stage of danger." A Member mentioned a case in which the inhalation of Chloroform had been used, with success, to relieve most painful cramps in the extremities: they were unconnected with cholera. [*Lancet*, December 2, 1848.] The *Lancet* of December 23, 1848, contains an abstract of a tabular statement, by Dr. Hill, resident medical officer of the Peckham House Asylum, of the cases of cholera which had occurred in that institution up to the 21st of November. There appear to have been 54 cases, of which 38 recovered, and 16 died. In addition to Chloroform, brandy, calomel and opium, acetate of lead and opium, and numerous other remedies were employed; but to Chloroform Dr. Hill chiefly attributes the recoveries. In a communication to the *Lancet* of Feb. 10th, 1849, concerning the cases of cholera which recently occurred at Tooting, Mr. Popham remarks, that "Chloroform was tried, and though two or three cases in which it was administered recovered, I look on it as useless in the stage of collapse. It certainly lessens the vomiting in mild cases. In the cases where I administered it, it had the effect of increasing the number of respirations from 25 to 36 in a minute, after its influence had been continued an hour: the pulse also increased gradually, in the same time, from 110 to 124, and became stronger; and the heat of the skin was also augmented. Chloroform may perhaps be a valuable auxiliary in the treatment of cholera, but by itself it is not to be depended on, though so highly extolled by the medical gentlemen at Peckham asylum."

Dr. Moffat, of North Berwick, observes (*Lancet*, November 18, 1848),

"1. Chloroform, by inhalation, should be used at the commencement of the attack of Cholera; and, in order that the patient may have the full benefit, it should be applied at the earliest moment after seizure, for if the strength be exhausted by vomiting and purging, it cannot be of much avail, the anæsthesia acting only by retarding and preventing the disease, not by curing it when once formed. The state of anæsthesia should be kept up for a considerable period in every case; of course the length of time to be determined by circumstances. Should there be any reappearance of the disease when the patient comes out of the anæsthetic state, Chloroform should be again instantly applied. After supposed recovery, the patient should be carefully watched for some time, for the disease will often recur in the most insidious manner.

"2. During the time the patient is in the anæsthetic state, particular care should be taken of the body, and the most minute symptoms noted; and when necessary, remedies must be applied. The body must be kept warm, and the circulation in the extremities assisted by gentle friction.

"3. Whenever possible, the patient should be Chloroformized in a well-ventilated apartment, free from currents of air, and away from all noise and disturbance. The body to be placed in the horizontal position, or with the head a little up. All tight clothing must be removed, as it is of the greatest importance that perfect freedom should be given to the circulation.

"4. The usual remedies, such as brandy, opium, etc., should constantly be at hand, and given when their use may be required."

In the same journal for January 20, 1849, Dr. Moffat relates the following case: A house-painter from Dunbar, about fifty years of age, was seized, about eight in the morning, with the usual symptoms of cholera. He was seen by Dr. Moffat at five P.M. The extremities were cold, the body blue; not the slightest pulsation could be felt in either arm, and the vomiting, purging, and cramps, were absolutely fearful. Twenty-five drops of laudanum were given, which were instantly vomited up. Chloroform was then administered by inhalation. He fell gently back, the vomiting ceased, and he lay quite calm. In twelve or fifteen minutes he came out of the anæsthesia, and looked placidly around him, but in a few minutes more he began to feel the pains and cramps in his legs, and cried out for more of the Chloroform, at the same time eagerly catching hold of the Chloroformed handkerchief, and applying it to his mouth. Anæsthesia was again induced, and kept up, more or less, for four hours, during which time the body was kept warm by a load of bed-clothes, bottles of hot water, etc. A little brandy, camphor, etc. were occasionally given. From that moment every symptom ceased, and he is now quite recovered. There can be no doubt, we think, that by some the benefits of Chloroform in cholera have been greatly overstated; and we are inclined to think that Dr. Wm. Robertson's estimate of it (p. 344) is correct—viz., that it does much for the *comfort*, but nothing for the *cure* of the patients.

Chorea. Mr. W. D. Emmett, of Darlington (*Lancet*, March 4, 1848), says, "I have used Chloroform in a case of chorea, and with decided effect, the muscular movements being almost magically arrested, though the benefit was not permanent." Mr. F. H. Harris, of Botesdale (*Lancet*, June 3, 1848), employed Chloroform in the case of a patient, aged 17, labouring under chorea, which seemed unrelieved by the use, for ten days, of tonics and purgatives. He commenced by administering it for half an hour every day during a week, with the effect of arresting the muscular movements, and producing calm sleep. The excitement of the muscles returned, though in a less marked degree. During another week, he administered Chloroform daily for an hour or an hour and a half, and, the other usual remedies having been persisted in throughout, and continued a few days after leaving off the Chloroform, the patient became perfectly convalescent.

Convulsions (Infantile). Mr. Sabine relates (*Boston Medical and Surgical Journal*) the case of an infant, five months old, labouring under most severe and unremitting convulsions. A few inhalations of Chloroform were

made, when the muscles became relaxed, and the breathing was free and easy. The pulse, which was before absent, now became perceptible: and, in about three minutes, consciousness returned. No unpleasant effects followed the use of the Chloroform.—[*Prov. Med. and Surg. Journal*, May 31, 1848.]

Convulsions (Puerperal). Dr. Gros (of St. Marie aux Mines) has employed Chloroform in a case of convulsions after delivery. Bleeding, calomel, and opium, and sinapisms to the extremities, had been tried without success for six hours, when Dr. Gros administered about ʒiss of Chloroform, by means of a handkerchief. A state of anæsthesia, with relaxation of the limbs, and quiet breathing, was produced, and continued for ten minutes; after which the convulsions recommenced. Chloroform was again administered, which produced anæsthesia for a quarter of an hour. On awaking, the patient was more calm, and afterwards slept for more than an hour. The night was passed well, and there was no return of convulsions, nor any symptoms of puerperal peritonitis or mania; convalescence was rapid. [*Bulletin Général de Thér.* Jan. 15, 1849, as quoted in *l'Union Médicale*, 6 Fev. 1849.] The editor of *l'Union Médicale*, in quoting the above case, very justly remarks, that the number of cases of puerperal convulsions in which Chloroform can be used, is limited by the predominance of cerebral congestion. In the present case, bleeding had been practised three times before it was administered. In all cases, it would be well to practise blood-letting before employing anæsthetics. At a meeting of the Westminster Medical Society, on January 13, 1849, Dr. Snow, in answer to a question by Mr. Harvey, said, that he had not had any opportunity of giving Chloroform in puerperal convulsions himself, but he believed that it might be safely tried in most instances, and its use need not prevent that of blood-letting or other remedies. There was no uncertainty in the action of Chloroform; the quantity required could always be ascertained exactly by observing the effects; and it was attended with no risk whatever, in the hands of medical men who had paid attention to its effects and mode of administration. In the *Medical Gazette* for Feb. 11, 1848, Mr. Fearn, of Derby, is stated to have administered Chloroform to a young woman of seventeen, with puerperal convulsions. The affection was first treated by bleeding and turpentine enemata. The use of the Chloroform was successful; but it is a question whether it would have been admissible before the bleeding.

Delirium Tremens. Mr. J. B. Warwick, of Southwell, Notts, relates (*Lancet*, January 15, 1848) a case of delirium tremens in its most aggravated form, in a woman 45 years of age. She had been delirious for 24 hours, requiring three or four persons to hold her in bed. Morphia, ammonia, camphor, calomel, and turpentine injections, were tried for a day, without producing any amelioration of the symptoms, which seemed rather to increase. Chloroform was administered by inhalation, and produced sleep for ten minutes; it was then again administered, at intervals of a quarter of an hour, for two hours. The pulse had fallen from 100 to 80. With the last dose, 100 drops of laudanum were given. Sound sleep succeeded for three hours, after which recovery rapidly progressed. Mr. Hooper, of New Peckham (*Lancet*, April 1, 1848), administered, by inhalation, a drachm of Chloroform to a patient labouring under delirium tremens. From being very noisy and unmanageable, in two minutes he dropped off into a quiet sleep, which continued for twenty minutes, when he awoke calm and rational. With the exception of another paroxysm in the course of the next morning, the patient subsequently went on improving. Mr. S. L. Gill, of Stepney, administered Chloroform in a similar case, which had resisted the influence of opium. Sleep was produced for two hours, and followed by a state of composure, lasting for six hours. The symptoms of delirium returning at the end of that time, opium and other remedies were had recourse to with benefit. [*Lancet*, June 3, 1848.] M. Bocamy, of the Civil Hospital at Toulon, relates the case of a patient addicted to intemperance, who had a wound below the right eye-brow. Violent delirium set in on the fourth day, and continued for three days, unre-

lieved by antispasmodics and opiates. Chloroform was administered, and anæsthesia produced; after which the patient became calm. [*Gaz. Méd. de Paris*, 17 Mars, 1849.]

Dysentery and Infantile Cholera. Mr. T. Hewlett relates, in the *Provincial Medical and Surgical Journal* for November 15, 1848, three cases of the above kind, in which he administered Chloroform with success. It was prescribed in the form of a liniment, with turpentine and soap liniment (eight minims of Chloroform to the ounce), to be rubbed into the abdomen and back; and also as a mixture, containing m. vi of Chloroform, ʒiv of mixture of acacia, m. vi of tincture of opium, and water to ʒi: a teaspoonful to be taken every two hours. These proportions were for children from fifteen months to two years old. In another severe case of dysentery, occurring in a boy aged about eight years, and which had resisted all remedies, a mixture consisting of ten minims of Chloroform, with twelve grains of inspissated ox-gall, and some laudanum and almond emulsion, was prescribed, and a sixth part given every four hours. Under this treatment, with occasional doses of Dover's powders, the child speedily recovered.

Dysmenorrhœa. Dr. Henry Bennet (*Lancet*, February 19, 1848) has administered Chloroform by inhalation, in dysmenorrhœa, co-existent with chronic uterine inflammation, with the effect of allaying the severe pain occurring at the menstrual periods. In two cases in which he tried it, it failed to produce effect. In some instances its use was followed, for two or three days, by "extreme muscular debility, and nervous irritation; the patient being languid, disinclined to move, and agitated at the slightest noise." Dr. Bennet considers Chloroform, in cases of dysmenorrhœa from structural disease, to be only a temporary palliative to pain, and not a radical remedy. He has also given it with benefit in various forms of uterine pain; as in a case where a leech had fixed itself in the cavity of the cervix. In some instances he has employed it before or after cauterizing the cervix uteri.

Enteralgia. The *Révue Médicale* for November 1848, quotes from *La Verdad* for September, the reports of two cases of this description, successfully treated by Chloroform. The first was a case of a man, aged 36, who had been the subject of enteralgia for six months. The Chloroform was administered in doses of about four drops, gradually increased to ten drops, every quarter of an hour. The second case was that of a woman, aged 30, who was attacked with severe nervous colic. The administration of about three drops of Chloroform in a mild vehicle produced almost instant relief; the pulse improved in fulness and strength, and the heat of skin, which had been low, was restored. A repetition of the remedy soon effected a cure.

Hiccup. In the case of a gentleman, forty-six years of age, of weak constitution, and highly nervous temperament, M. Latour employed Chloroform during a very severe attack, which had lasted during three hours, the convulsions of the diaphragm occurring at intervals of six or eight seconds. A bottle containing Chloroform was applied to the nostrils, and removed after a few inspirations. At the first removal, a temporary cessation was produced, and three applications of the Chloroform bottle entirely put a stop to the paroxysm. [*L'Union Médicale*, 30 Dec., 1847.]

Hydrophobia. Mr. R. Y. Ackerley of Liverpool, relates (*Lancet*, July 29th, 1848) a case of hydrophobic mania, attributed to the bite of a cat ten or eleven years previously. Indian hemp and other remedies having been given without effect, and the spasmodic contractions of the muscles having extended to the limbs, conjoined with furious delirium, Chloroform was administered. This put him to sleep in about three minutes, and he awoke again in three-quarters of an hour, much more calm, and with deglutition improved. The Chloroform was repeated in the evening, four ounces of infusion of senna having been administered, and a blister applied over the scalp in the mean time. In the night, the hydrophobic symptoms increased in severity. The next morning, the Chloroform was again administered, and he remained quiet throughout the day, sleeping at intervals; it was again

employed in the evening. Emaciation being very marked, he was ordered wine and brandy, with arrow-root and beef-tea. On the following day, he was again worse. Tartar emetic, with croton oil, were rubbed over the spine, ice was applied to the head, and the Chloroform repeated. In the evening, the symptoms were somewhat improved, and Chloroform was again administered. On the two following days, Chloroform was administered night and morning, with chloric ether, ammonia, and camphor mixture internally. From this time, improvement was rapid. Chloroform was administered occasionally, with tonics and stimulants; and, in about a fortnight, he was quite well.

Hysteria.—Dr. Ossieur mentions, in a Belgian medical journal, that he succeeded in moderating the attacks of epileptoid hysteria in a young lady, by the internal administration of Chloroform. He had in vain tried assafœtida, lactuca sativa, and opiates, when he prescribed two drops of Chloroform to four ounces of *mistura acaciæ*, a tablespoonful to be taken every half hour. The patient fell into a sound sleep before the mixture was exhausted, and was calm and composed on awaking, without experiencing any of the usual unpleasant sequelæ of opiates. The next attack was much shorter in duration; and when, some time afterwards, another attack came on, no Chloroform was given, in order to make a comparative experiment. It proved a very intense fit, and lasted thirty hours. The fits evidently depending on the absence of the catamenia, *pilulæ aloes et ferri* and mustard foot baths were used with the Chloroform. Menstruation soon after appeared, and all the other symptoms vanished. [*Lancet*, November 25, 1848.] Dr. Pigeolet administered to a young woman, who was subject to attacks of hysteria from the slightest cause, twelve minims of Chloroform, to be taken in the course of two hours, When an attack occurred, the patient used the remedy, and sleep was procured before the whole quantity had been taken. [*Gaz. Méd. de Paris*, Fev. 3, 1849.]

Lumbago. M. Moreau (of Tours) employed Chloroform, with marked benefit, in several cases of lumbago, by means of poultices. [*Gaz. des Hôpitaux*, Jan. 13, 1849.]

Nephralgia.—In the case of a patient subject to paroxysms of nephralgia, which usually lasted for 48 hours at a time, M. Lériche, being called to visit him in an attack which had lasted ten hours, caused him to inhale twenty minims of Chloroform. At the end of a minute the pain had ceased, but returned in a short time, when Chloroform was again administered with like success, and a grain of opium given. In about two hours there appeared to be perfect freedom from pain, and sleep was procured by the aid of opium. [*L'Union Médicale*, Jan. 1, 1848.]

Neuralgia. M. Lériche (*L'Union Médicale*, 1 Janvier, 1848), relates the case of a patient suffering from neuralgia of the cervical plexus. The attacks came on at intervals of one or two months, and lasted several days, in spite of the remedies employed. On one occasion, M. Lériche administered about fifteen or twenty drops of Chloroform on a handkerchief. The pain was instantly removed, and the patient remained free for two hours, when it was again removed by a similar inhalation. Dr. Contal, of Vezelise, employed friction with Chloroform in several cases of neuralgia. One was a case of facial neuralgia on the right side. Twenty-three drops were rubbed in, which procured relief for two hours; after which the pain returned, but with less intensity, and was relieved by the application of ten drops. A third application of the Chloroform was required during the night, after which there was no return of the neuralgia. In another case, there was intercostal neuralgia on the right side. Fifteen minims of Chloroform were rubbed in, and produced relief for half an hour. The pain then returned in the breast, but was entirely removed by friction with ten drops. In a third case, erratic rheumatic pains had become fixed in a severe form, in the left intercostal region. They were totally removed after the sixth friction. The local application of Chloroform, in these cases, produced either a slight and transient burning sensation, or

of a very cold body being applied. [*Gazette des Hôpitaux*, Feb. 3, 1849.] In a case of dental neuralgia, arising from caries of a molar tooth, Dr. PIGEOLET applied a drop of Chloroform to the affected tooth, with the effect of relieving the pain. [*Gaz. Méd. de Paris*, Feb. 3, 1849.]

TETANUS. The *Union Médicale* for November 30th, 1847, contains a report of a case of tetanus in the practice of M. VELPEAU, at the Hôpital de la Charité. The vapour of ether was employed without any effect. Chloroform was several times administered by inhalation, with the result of producing sleep; but, each time on the patient awaking the tetanic rigidity and convulsions returned, and the case terminated fatally. MR. W. H. CARY, of Woodford, Essex (*Lancet*, February 19th, 1848), relates a case of idiopathic tetanus (emprosthotonos) occurring in a child nine years of age. After purgatives, opium, ether, and other remedies had been ineffectually tried, finding, on the sixth day, that loss of power in articulation and deglutition was supervening, and that the diaphragm was rigidly and painfully contracting, he determined to use Chloroform. Forty minims were accordingly administered; in two minutes, she was narcotised, and the sleep continued for seventeen minutes. The spasm slightly returned: Chloroform was again administered, and produced sleep for three hours. It was repeated in the evening, to allay some slight return of the spasms. She slept well during the night, and awoke well in the morning, in which state she continued up to the date of the report. Mr. WELCH (*Lancet*, March 4, 1848), gives an account of a case of combined hydrophobia and tetanus, in which Chloroform was unsuccessfully applied. The patient, a boy, ten years of age, had received a laceration of the upper lip, which produced tetanus. On admission, a drachm of Chloroform was administered by inhalation, which produced convulsive action and symptoms of pulmonary congestion. In about twelve hours, during which time, notwithstanding the use of tincture of opium, and the external application of extract of belladonna, general tetanic symptoms had set in with severity, hydrophobia began to manifest itself. These symptoms increased, and he died next evening. In a case of tetanus, supervening five days after an injury of the ring finger of the right hand, a portion of the first phalanx of which had been torn off by machinery, Chloroform was successfully administered by Mr. R. L. BAKER, of Birmingham. Sleep was produced in three minutes from the commencement of the inhalation. The effect was kept up for three-quarters of an hour. In an hour after, the patient awoke, with the free use of his limbs, and entered into rational conversation. Six days after, some slight convulsive twitches having recurred, the finger was amputated. The patient was doing well at the date of the report. Mr. WORTHINGTON, of Lowestoft, relates the case of a sailor admitted into the Infirmary of that place, with fracture of both bones of the leg. Tetanus set in on the tenth day. Chloroform was administered; a remission of the symptoms was produced; but the patient died asphyxiated, in a paroxysm of tetanus, thirty-three hours from the commencement of the attack. [*Prov. Med. and Surg. Journal*, April 19th, 1848.]

TYPHUS FEVER. In the *Lancet* of Jan. 29th, 1848, a case, occurring at the Bristol General Hospital, is recorded, in which a female about eighteen years of age, exhibited all the symptoms of bad typhus. The patient being delirious, and the system worn out by want of sleep, it occurred to DR. FAIRBROTHER, that Chloroform, by its sedative effect, might reduce the rapid circulation of blood through the lungs, and subdue the excited state of the nervous system. It was accordingly administered, by inhalation from a sponge, at first in doses of ten minims, for ten minutes, and gradually increased to twenty-five minims for forty minutes, every four hours. The first dose produced soporific effects, and gradual improvement resulted. All other medical means (which had been found ineffectual), were omitted; the body was sponged with tepid water, and cold pads were applied to the head. The system was supported with beef-tea, porter, wine, etc., and toast-and-water was given to allay thirst. The patient recovered.

[*To be continued.*

PATHOLOGY AND TREATMENT OF SENILE DEAFNESS.

(Continued from p. 278 *of last number.)*

Case vi. Mrs. F. O. died of gangrene at the age of 62. She had been deaf for some time, especially in the left ear.

Dissection. *Right Ear.* The membrana tympani is unusually concave, and, in consequence, its internal surface, about the central part, is not more than a quarter of a line from the promontory. The membrane is also, in parts, rather opaque, especially at its circumference; its internal layer is white and slightly thickened. The mucous membrane of the tympanic cavity is rather thicker and more vascular than is natural, and it is very tough. A firm band of adhesion connects the cervix of the malleus to the long process of the incus, and another membranous band of adhesion connects the anterior surface of the long process of the incus with the promontory and with the stapes, which latter bone it completely envelopes. The tensor tympani muscle is of diminished size. *Left Ear.* Although the surface of the membrana tympani is smooth, it is very white around the line of attachment of the malleus; the blood-vessels are enlarged, and they are much distended with blood. The membrana tympani is much more concave than natural. The cavitas tympani is three parts filled with a thick, tenacious, white mucus, which is partly the cause of the white appearance of the membrana tympani, though the inner layer of the latter membrane, being opaque and white, aids in producing this effect. The mucous membrane lining the tympanum is thick and very vascular, and that portion of it, which covers the body of the incus, is red, the vessels being completely distended with blood. The upper wall of the tympanum is very thin and translucent; the blood-vessels contained in it are distended with blood, and connect the vessels of the mucous lining of the tympanum with those of the dura mater; the latter membrane being more vascular than natural. The tensor tympani muscle is atrophied, and tension of the membrana tympani is not produced by pulling it. The concavity of the membrana tympani seems to have been produced by a gradual contraction of the tensor tympani muscle.

Case vii. Mrs. L. B. died of consumption at the age of 80.

Dissection. In each ear the membrana tympani is somewhat thickened, and membranous bands of adhesion connect the incus and the stapes with the walls of the tympanum. The vestibule is full of a rather turbid fluid, and the membranous labyrinth is thicker than natural.

Case viii. Mr. S. D. died of inflammation of the bowels at the age of 74. He was slightly deaf for a short time.

Dissection. *Right Ear.* The membrana tympani is rather opaque, and thick about its central part. *Left Ear.* The membrana tympani and the mucous membrane of the tympanum are thickened.

Case ix. Mrs. D. E. died with dropsy at the age of 69. She had been deaf for some time.

Dissection. *Right Ear.* The membrana tympani is white, and there is a quantity of thick mucus in the tympanum, the mucous lining of which is also white. *Left Ear.* The membrana tympani is thicker than natural. The mucous membrane lining the tympanic cavity is thick, and the latter is full of mucus. The carotid canal is partially closed.

Case x. Mrs. E. B. died at the age of 68; she had for some time been deaf in the right ear.

Dissection. *Right Ear.* The membrana tympani is white, and the mucous membrane of the tympanic cavity is so thick as to bury the stapes, and nearly wholly conceal it.

Case xi. Mrs. L. R. died of asthma at the age of 70; she had been deaf for several months in both ears.

Dissection. The only pathological condition discovered was a collection of cerumen in the external tube of each ear.

Case xii. Mr. M. S. died at the age of 70; he had been deaf in the right ear for a considerable period.

Dissection. *Right Ear.* The membrana tympani presents a large orifice, the result of ulceration. There is also ulceration of the membranous lining of the external tube. The mucous membrane of the tympanum is healthy.

Case xiii. Mrs. N. O. died at the age of 90; she had been deaf in the left ear many years.

Dissection. *Right Ear.* The mucous lining of the tympanic cavity is thick, and the stapes is concealed by adhesions. *Left Ear.* The membrana tympani is so much drawn inwards as to be nearly in contact with the promontory; where it looks towards the external meatus, it is so concave that a pea would lie in it. The tympanic cavity is full of bands of adhesion, which encircle the ossicula, and connect them with the internal wall; the cavity of the vestibule appears to contain less fluid than natural.

Case xiv. Mrs. D. S. died of fever at the age of 73. She stated that so long as she could remember, she had been troubled with a discharge from the right ear; she had become deaf in the left ear only at a recent period.

Dissection. *Right Ear.* The membrana tympani presents a large orifice at its central part; the remaining portion is thick and white. The mucous membrane lining the tympanic cavity is very thick, and is concealed by purulent matter. The stapes is adherent more firmly than natural to the circumference of the fenestra ovalis. *Left Ear.* The membrana tympani is thick, opaque, and softer than natural. The mucous membrane of the tympanum is thick, and the cavity contains mucus.

Case xv. Mrs. G. C. died from gangrena senilis at the age of 79; she had been deaf for several years; the disease commenced by a succession of attacks of ear-ache.

Dissection. *Right Ear.* The membrana tympani is white, and thicker than ordinary parchment, to which it bears a great likeness. The mucous membrane of the tympanic cavity is thick, and the base of the stapes is firmly anchylosed to the circumference of the fenestra ovalis. *Left Ear.* In the same state.

Case xvi. Mr. R. D., æt. 65, died of dropsy. He had been deaf for some time.

Dissection. *Right Ear.* The membrana tympani is rather opaque; and it is connected to the stapes by membranous bands. *Left Ear.* The meatus externus is full of cerumen mixed with epithelium. The membrana tympani is white, thick, and drawn inwards so as to be very concave, and its internal surface is in contact with the promontory, to which it is attached by firm adhesions. The cavity of the tympanum is nearly obliterated by the approximation of the membrana tympani to the inner wall of the tympanum. The stapes is entirely concealed; the tendon of the tensor tympani muscle is completely enveloped by the thick membrane, and the substance of the muscle is much atrophied. The incus has been removed by absorption, and part of the malleus has also disappeared. The upper wall of the tympanum is very thin, the bone is brittle, and the dura mater separates from the bone with greater facility than natural.

Case xvii. Mrs. F. B. died from pneumonia at the age of 70. She had been deaf in the right ear for some time.

Dissection. *Right Ear.* The external meatus is filled with a dark-coloured thick pus, which seems to have been secreted by the external surface of the membrana tympani. The membrana tympani is very soft, and so concave that its inner surface is in contact with the inner wall of the tympanic cavity of the stapes, to both of which it is firmly adherent. The malleus is but slightly connected to the membrana tympani; the long process of the incus and its orbicular process have been wholly absorbed. The mucous membrane of the tympanum is very thick. The upper bony wall of the tympanum is thick and diseased, showing the effects upon it of chronic inflammation of the mucous membrane lining its inferior surface. From its cranial surface, a small rough exostosis projects, to which the dura mater is very firmly adherent. The posterior surface of the petrous bone also shows

symptoms of chronic inflammation. The mastoid cells contain a large quantity of dark-coloured mucus. *Left Ear.* The membrana tympani has commenced to undergo calcareous degeneration.

Case xviii. It could not be ascertained whether the patient was deaf during life, but there can be very little doubt that she was so. Mrs. E. N. died of phthisis at the age of 65.

Dissection. *Right Ear.* A transparent band of adhesion connects the membrana tympani posteriorily with the long process of the incus; and the base and crura of the stapes are joined by numerous firm bands to the circumference of the fossa fenestræ ovalis. *Left Ear.* The inner surface of the membrana tympani is connected with the long process of the incus and with the head of the stapes, by transparent but firm bands of adhesion, which nearly conceal the stapes, and firmly bind it to the promontory. The membrane surrounding the articulation of the incus and the stapes is so thick and tough, that the two bones required for their separation considerable force. Besides the adhesions connecting the stapes to the promontory, the membrane connecting the base of the stapes to the fenestra ovalis is much more firm than natural; so that, in endeavouring to separate the stapes by means of the forceps, the crura were fractured, and the base of the bone remained firmly adherent to the fenestra ovalis."

In addition to the dissections related, Mr. Toynbee has made others of the ears of fifty-one persons, who were more than seventy years of age at the time of death. Of these one hundred and two ears, *sixty-two* were in a diseased, and *forty* in a healthy state. These dissections are included among the 915 cases which form the groundwork of a paper[1] now before the Medico-Chirurgical Society of London.

Treatment. The most frequent pathological condition in the ears of elderly deaf persons, consisting in a thickened state of the mucous membrane, the presence of bands of adhesion, and a thickened condition of the membrana tympani—any one of which circumstances is sufficient to prevent the passage of sonorous undulations from the membrana tympani to the expansions of the auditory nerve—it is highly important to inquire, whether any remedial measures can be suggested? Mr. T. believes, that not only may the thick membrana tympani be relieved, but the thickened mucous membrane be so reduced, and, in some cases, the bands of adhesion so far relaxed, that their presence will offer scarcely any impediment to the function of hearing. He uses solution of argenti nitras, of from half a drachm to two drachms, to an ounce of distilled water. Proceeding from the exterior orifice, the passage may be touched to an extent varying from one-half to two-thirds of its length every third or fourth day. In some cases, the membrana tympani also may be washed with a solution of argenti nitras, of six grains to the ounce. Where the noises are loud, and the symptoms indicate much congestion in the ear, leeches should be applied immediately *below*, not *behind*, the ears; and, where there is irritation of the external tube, an ointment, composed of half a drachm of pulvis cantharidis added to an ounce of simple ointment, and applied behind and below the ear, either daily, or every other day, will be found beneficial. Alterative doses of pilula hydrargyri, hydrargyrum cum creta, or the hydrargyri bichloridum, are very useful; but so gentle should be the alterative, that no sensations should suggest to the patients that they are under a course of medicine. Patients should be cautioned to avoid warm close rooms, and sitting very near the fire; no wine should be taken, unless diluted with water; daily exercise, and, where possible, on foot, should be taken in the open air; together with a warm bath every week or ten days. This course of treatment has been productive of the greatest advantage in several cases of deafness of a most unpromising character, treated by Mr. Toynbee, and published by him in the *Edinburgh Monthly Journal* for March, in which Journal the above originally appeared.

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1. Pathological Researches into the Diseases of the Ear.

DR. MARSHALL HALL ON THE NECK AS A MEDICAL REGION, AND ON PAROXYSMAL PARALYSIS.

The following is an abridgment of two papers which appeared in the *Lancet*, of February 17th, and March 17th, 1849:—

When I contemplate the nervous, vascular, and muscular structures of the neck, with their relative positions and varied functions, I am astonished that, in their *physiological actions*, they never interfere materially with each other. An athletic person may carry an enormous weight on his head, accurately balanced by the action of the muscles of the neck, without the slightest interference with either the nervous or vascular structures so diffusely and variously spread over this region.

But let *pathological action*, the result of emotion, or excito-motor energy, occur, and then interruption of the course of the blood, and nervous action, the most dire and terrific, ensue. The *larynx*, *pharynx*, and *œsophagus*, belong to this region, and contribute their influence to the *Class* of morbid phenomena, of which it is the seat.

As remoter organs intimately associated with the pathological actions of the structures in the neck, I must chiefly notice the medulla oblongata and the cerebrum, on the one hand, and the lungs on the other; and especially in their varied relations to comatose, spasmodic, and asphyxial affections.

To the surgeon, the *arteries*; but to the physician, the *veins* of the neck are the chief objects of interest. If the latter be morbidly compressed, and their blood impeded in its course from the encephalon, many diseases of the utmost moment are the result.

The larynx and trachea may be said to present objects of the deepest interest both to the physician and surgeon, being equally the seats of disease and of accident—of medical treatment and of surgical operation.

The physician has only to observe the various movements of the eyeball, of the features, of the tongue, of the lower maxilla, of the neck, of the larynx, of the pharynx, etc., to arrive at the conclusion, that in the various spasmodic diseases there is no muscle which may not become, singly or together with others, the subject of spasm. It is doubtless to some obscure movements of this kind observed in the countenance, the neck, the fingers, etc., in infants, that nurses have given the designation of "inward fits".

In estimating the value of this subject, we must bear in mind the principle which has been already enunciated—viz., the difference between the well-balanced and harmonious *physiological* actions of the neck, and the abnormal, morbid, and discordant actions of these same muscles in disease, with their *pathological* effects on the subjacent or contiguous structures. Let us contemplate in this manner the effect of morbid and irregular action of the platysma-myoides, and of the cleido-mastoid and omo-hyoid muscles, on the subjacent external and internal jugular veins respectively. I can impart no idea of the interest attached to a careful observation of the condition of these *veins*, and thence of the capillary vessels, and of the arteries; in a word, of the whole *arrière* circulation, in cases of morbid action of the muscles of the neck. The different points in the cephalic circulation should be examined with as much care as the pulse. The neck should be laid bare, the under eyelid everted, and the temporal artery carefully felt. One anxious mother could *foretell* the epileptic seizure in her daughter, by observing the fulness of the veins of the neck. One lady observed these veins occasionally to acquire the size of her finger. A medical gentleman drew my attention to the congested condition of the conjunctiva of the under eyelid in his own case. Many patients have presented a cord-like tension of the temporal arteries. All these phenomena constitute links of the same chain; the first link being compression of the venous trunk by the irregular contraction of the muscle or muscles seated immediately above it; and the last, perhaps, a paroxysmal threatening or seizure.

It may be laid down as a principle, that there is no muscle—no set of muscles—in the neck, which may not become spasmodically contracted, and that there is no vein in this region which may not, under the influence of such contraction of muscles, become compressed, and the course of whose blood may not be impeded or arrested. The effect of interrupted return of blood along the external jugular is, from its connexions being superficial, far more observable than that of a similar interruption in the internal jugular or vertebral, which can often only be inferred from the symptoms.

I now proceed to consider this subject more especially in regard to certain characteristic affections of the nervous system.

We have all heard much of the *tendency* of blood to the head, and we have scarcely heard of *impeded return* of blood from the head. There is no principle in physiology which could induce or explain *tendency of blood to the head.* M. Poisseuille has irrefragably shown that the power of the heart is equal in all the blood-vessels of equal size, and of equal distance from the heart. Nothing can influence this force except position, exercise, or muscular effort, or hypertrophy of the heart itself, which may augment the rapidity and force of the circulation; but then this augmentation of the rapidity of the circulation is general and diffused, like its original force, equally in all the vessels of equal size and form, and at equal distances from the heart. Widely different is the course of *impeded flow of the blood* along the veins. An individual vein may be compressed, and the flow of blood along its course, and its return from the organ in which it originates, is impeded; the capillary vessels, or, as I would term them, the methæmatous channels, are gorged and congested, and the arteries become rigid and throb. This is of daily occurrence.

We have only to watch the condition of the platysma-myoides, and of the external jugular vein, to observe that the contraction of that muscle is frequently spasmodic, and the dilatation of the vein, and of the veins which lead to it, a constant effect. Spasmodic action of the muscle, then, may tend to the obstruction of the course of a vein, and to consequent congestion of its roots, and of the blood-channels, to which it serves as a drain. All the muscles of the neck may be summoned into *normal* action of the most energetic kind, as in carrying a heavy load on the head, without producing this effect. But let this action be *abnormal*, and without equipoise, and a very different result is observed; the subjacent vein may be compressed, and all the consequences of such compression may occur,—viz., distention of its roots, and of the blood-channels, placed intermediately between them and the corresponding branches of arteries, which latter become rigid and throbbing.

Another pathological principle must be adduced in this place. Let any any one observe the eyes, the countenance, the tongue, the neck, the hands, &c., in spasmodic disease. They will be satisfied that there is no individual muscle, no series of muscles, which may not be excited into abnormal and violent, because spasmodic action. There is consequently no vein within the influence of such action which may not be compressed. As a further consequence, there is no organ which delivers up its blood to such vein, which may not be the seat of congestion, and, if I may so express myself, of the apopletic state.

Now, in the region of the neck there are *four* veins of vast importance in this point of view; these are—

1. *The External* } *Jugulars;*
2. *The Internal* }
3. *The Vertebral;*
4. *The Subclavian.*

Now, the external jugular is compressed by the action of the platysma-myoides; the internal jugular, by that of the cleido-mastoid and the omo-hyoid muscles; the vertebral and the subclavian veins may be compressed, and the course of the blood in them impeded or arrested, by the spasmodic action of the scaleni, the subclavius, the pectoralis minor, &c. To show the influence of abnormal contraction of the muscles on the subjacent or adjacent

veins, I may mention the fact, that even the pulse of the artery at the wrist may be stopped by violent voluntary action of the pectorales minores, and other muscles similarly seated. The compression of each of these veins induces its own peculiar effect. The external jugular is frequently compressed by the action of the platysma-myoides, the effect of emotion, and blushing is the consequence ; in other cases, the superficial veins of the neck, face, forehead, temples, &c., are seen to become tumid, the face to flush, and the temporal arteries to throb. The internal jugular may be compressed without any obvious external sign, its roots being deeply seated. But the brain suffers, and there may be one or more of the varied symptoms of *cerebral* epilepsy—that is, momentary loss of consciousness, affection of the vision, or ringing in the ears. If the vertebral vein be obstructed, there are some of the symptoms of affection of the medulla oblongata, or of *spinal* epilepsy—that is, laryngismus, strabismus, odaxismus, twisted neck, etc. Lastly, when the subclavian is compressed, the hand of the patient becomes livid and cold.

Some action of this kind also doubtless affects the mamma and the nipple, under the influence of what is called "the draught," and of the erectile excitement of the nipple on the pressure of the lips of the infant. Other glands may be affected in a similar manner, excited, or arrested, by similar means, especially the salivary.

Compression of the subclavian vein may affect, not the brachial vein only, but, in a secondary manner, the vertebral and the jugulars ; and it is to be particularly borne in mind, that the veins of this region are not affected *singly* in the manner I have described, but variously together. It is not by any regular and physiological convulsion, but by irregular abnormal and violent *grouping* and *contraction* of the muscles of the neck, that compression of the veins of this region becomes variously affected with its consequences.

I have now to evolve a fourth pathological principle in relation to this subject. The actions of the muscles to which I have adverted being one and all spasmodic or convulsive, the effects of this on the veins, and more remotely on the cerebrum, or on the medulla oblongata, are—*paroxysmal*. And this remark leads me to mention, in the most emphatic manner, that not only coma in the apoplectic state, but hemiplegia and partial paralysis, and mania, may, as well as epilepsy itself, be paroxysmal, be dependent on intra-vascular congestion, and exist entirely independently of extra-vascular, or other physical change. They may be evanescent, therefore, and so, far, very far, less grave than other forms of these diseases. This subject, in all its relations to its causes, its rationale, its prognosis, is of vast importance in medical science.

Emotion and *causes of reflex action* may induce contraction of the muscles of the neck—*trachelismus*. This may compress the veins of the neck, and induce a condition which may be designated *phlebismus*. This leads to congestion of the intermediate blood-channels and the apopletic state ; and this, primarily, or secondarily, to comatose, to paralytic, to maniacal, to epileptic affections, all having the one characteristic feature—that of paroxysmal and evanescent forms. I imagine that this view of the subject is equally original, important, and extensive. The events of each day's practice prove that these paroxysmal forms of diseases of the nervous system, not formerly viewed as paroxysmal, are extremely frequent. In fact, I believe a new ray of light is being shed on apoplexy, and even on paralysis and on mania, in their varied forms,—in a word, on a *whole Class* of paroxysmal diseases.

What are the exciting causes of trachelismus and its phenomena ? I answer, first, emotion ; and second, the excitants of reflex action—new subjects of investigation and study in the science and art of medicine. I am quite aware that neither the professional nor the public mind—they are, indeed, nearly on a par—are raised sufficiently for views so "rational." But, then, I do not write for the present day ; and the day will come—and I shall promote its advent—when medicine will form a Science, based on physiology,

and calling in the aid both of theory and of observation. These fountains of science will be viewed as allies, not as opponents, and we shall have our Adamses as well as our Hinds, even in medicine.

There is no degree or form of apoplexy or mania which may not be paroxysmal, and dependent on trachelismus. This is also true of paralysis. One patient suddenly and completely lost the power of articulation at one time, and of writing at another, to recover them after an interval. Another patient lost the power of articulation; a second, the use of the arm, and a third, the use of both arm and leg, yet only for a time. In most of these cases, but not in all, the paralysis is not only paroxysmal, but more or less combined with spasm—that is, they are not cerebral only, but spinal.

Apoplexy, paralysis, mania, have alike resulted from an epileptic seizure. Minor degrees of the former have occurred from milder degrees of the latter; and even in the entire absence of epileptic symptoms. But to the physiologist there is a bond of union between them all. All may equally, and conjointly or separately, arise from emotion or the excitants of reflex action; from the occasional effects of these inducing contractions of the muscles of the neck, of this on the veins, of this again on the capillary circulation, of this on the condition of the cerebrum, and of the medulla oblongata—whence the class of PAROXYSMAL, CEREBRAL, and SPINAL DISEASES.

I must make one further remark on the structure of the veins of the neck. These are so provided with valves at their conjunction with the subclavian, as to cut off the influence of the venous circulation in the fore-arm and arm. Without this provision, each energetic use of the anterior extremity, as when the blacksmith raises his heavy hammer, or strikes with violence on the anvil, would be attended by a blow or shock to the cerebrum, or the medulla oblongata.

The termination in *itis* is become generic, and denotes the fact of the inflammatory character of the disease. A similar use may be made of the termination in *ismus*, which may be applied to another class of diseases, not inflammatory, viz., strabismus, laryngismus, pharyngismus, cheirismus, podismus, etc.

The term *trachelismus* may be used to express that paroxysmal affection of the neck, in which, the muscles acting inordinately, the neck is affected with opisthotonos, or becomes twisted, or otherwise contorted; whilst the subjacent veins are subjected to compression, and the blood flowing along them is arrested or impeded in its course—a condition which may be aptly termed *phlebismus*. The term phlebismus may be regarded as generic, and each kind of this affection may have its appropriate and specific designation; and whilst the term *sphagiasmus* denotes compression of the internal jugular vein, that of *rhachiasmus* may be used to denote that scarcely less important event of interrupted circulation in the rachidian or vertebral vein. The former will be henceforth associated with paroxysmal apoplexy, paralysis, mania, etc.; the latter with the epileptic seizure, and other convulsive and spasmodic affections, the cerebrum and the medulla oblongata, being affected respectively. Trachelismus and phlebismus constitute one of the most important events in *pathology*, and especially in the pathology of the nervous system. Induced by mental emotion and excitants of reflex action, they are, in their turn, the fruitful source of *congestion* in the *cerebrum*, or in the *medulla oblongata*, and of *cerebral* and *spinal paroxysmal diseases*.

There is no *order*, no *degree*, in which the muscles of the neck may not act, and in which the veins of the neck may not be compressed; there is no form of cerebral and spinal paroxysmal derangement—from a momentary oblivium or delirium to coma or mania—from the slightest spasmodic or paralytic affection to epilepsy or hemiplegia—which may not take place as consequences of that compression. Having the limits of these maladies clearly before our eyes, we may readily comprehend the intermediate forms, mild and

dire. To trace these maladies from their faintest to their darkest shade—to trace them back to their causes, moral and physical, and onwards, to their dire effects on the intellect and on the limbs, of excitement or of stupor, of spasm or of paralysis, through trachelismus and phlebismus—is to engage in the investigation of one of the most novel, varied, and practically useful subjects in the domains of pathology. From mere sick head-ache, to paroxysmal apoplexy, or epilepsy, this *Class* of diseases extends, occupying with its varied forms the lengthened interval.

A remarkable confirmation of these views is afforded by the phenomena presented by *Strangulation*. The moment the cord is tightened round the neck, *apoplectic* insensibility takes place; as a subsequent phenomenon, we have *epilepsy*,—the tongue is protruded and bitten in some cases, and there are erection and seminal emission in others; *asphyxia* terminates the dreadful series of events. It will be plain, from what has been said, that we cannot concur with the eminent physician of Edinburgh, that "strangulation, when the neck is not dislocated, appears to be simply apoplexy." In slighter degrees of strangulation, there are slighter effects, but amongst these there is always insensibility. A boy mentioned by Zitzilius, as quoted by Abercrombie, had drawn his neckcloth remarkably tight, and was whipping his top, stooping and rising alternately, when, after a short time, he fell down apoplectic. The neckcloth being unloosed, and blood being drawn from the jugular vein, he speedily recovered. We are all acquainted, too, with the recorded phenomena of Thuggee: the kerchief is tightened, and consciousness, and every mental and physical power, are extinct in a moment. Similar effects have been observed in animals. The first Monro suspended a dog by a cord, excluding the trachea: insensibility was produced, but not asphyxia. There is another fact of the same kind. The horse is subject, when drawing against the collar, to what is termed the megrims (hemicrania). In one such case witnessed by my friend Mr. H. Smith, the external jugular vein, having been previously opened, burst out bleeding.

A more distinct experiment of Sir Astley Cooper is the following:—

"In one rabbit I tied the jugular veins on each side of the neck. When it was set at liberty, it ran about, cleaned its face with its paws, and took green food. Its respiration was reduced to 68 inspirations in a minute, which is about half the natural number. After four hours, it ran about as if nothing had happened, and eventually recovered. When it was killed and injected, I found on each side three anastomosing veins passing from the anterior to the posterior part of the jugular veins, and conveying the blood from the head to the heart; but the vertebral vein had remained whole, and become enlarged; and it passed on the fore-part of the vertebræ, from the head to the space between the fourth and fifth cervical vertebræ, where it entered the vertebral canal.

"In a second rabbit, I tied the jugular veins on each side of the neck, as before. The animal's respiration became slow; but it ate green food, ran about, and was difficult to catch; but for five days after it appeared dull; its ears had dropped. On the seventh day, it was seen to be convulsed, and frequently rolled over. Its voluntary powers were lost, as well as the sensation, in a great degree. On this day it died. On examination, a clot of blood was found extravasated in the left ventricle of the brain.

"Hence, it follows, that apoplexy will occasionally result from an obstruction to the return of blood in the jugular vein; and this I have known to happen from enlargement of the glands in the neck of a boy."—*Guy's Hospital Reports*, vol. i, p. 471.

To these observations I may add the following interesting extract from Abercrombie, to show at once the importance and the obscurity of the subject, previous to these inquiries. After having spoken of the effects of strangulation, and of the "numerous examples in which persons fall down suddenly in a state of perfect apoplexy, and very speedily recover under the

appropriate treatment, without retaining a trace of so formidable a malady," he adds :—" The apoplectic attack, as it occurs in such examples as these, must be supposed to depend upon a cause which acts simply upon the circulating system of the brain, producing there a derangement, which takes place speedily, and is often almost as speedily removed. *What the precise nature of that derangement may be, is a point of the utmost difficulty to determine.*" Abercrombie's philosophic mind felt, in all its force, the want of some such principle as it is the object of these observations to set forth.

A slight degree of trachelismus leads to the feeling of " strangulation", or of " constriction", or of " tightness", or " pressure", or " fulness", about the neck ; for these and other phrases are used by patients. In inquiring into these feelings, we must avoid leading questions, and make the patient express himself. " Do you experience anything unusual about this part ?" (referring to the front of the neck generally) is the only question I ever allow myself to ask. The reply to this is frequently of the most unexpected and interesting kind. The subjects of trachelismus and phlebismus bring under our review the cases of paroxysmal apoplexy, paralysis, mania, and epilepsy, in all their shadowy and terrific forms. In their causes, their nature, their effects, and their treatment, they present to the physician a field of investigation, equally uncultivated hitherto, and prolific in results. A chief cause is *emotion.* Such was the cause of the epileptic attack experienced by Henry Kirke White ; and in general, I believe, the mental agitation, the hopes and fears attendant on the examinations for honours at Cambridge, are far more dangerous than the intellectual efforts previously made ; and I would strongly and loudly urge on the Senate of that famed University (and others) some other, and better, and more continuous mode of judging, than the *one* fearful and dangerous trial now adopted. These effects must be carefully distinguished from those of inflammation and of organic lesion, and the task of an accurate diagnosis is not an easy one.

It has been admitted, from time immemorial, that mental agitation and passion, and deranged condition of the stomach, liver, bowels, etc., induce apoplectic attacks. I only attempt, for the first time, I believe, to set forth the *rationale* of this pathological phenomenon. In doing this, I establish a *class* of *paroxysmal* diseases of the nervous system, cerebral as well as spinal ; apoplectic and paralytic, as well as epileptic and convulsive. I endeavour to fix the attention of physicians, and of patients too, on this, the *curable* stage of these dire maladies, before, from being merely paroxysmal derangement, they pass into permanent lesion of tissue. This is *living* pathology as contrasted with the results of morbid actions as usually detailed in books, which are *dead.* If we read over the titles of each of the nine *Letters* of M. Lallemand, we find but a list of the capita mortua of the real and living disease. But what actions led to each of these ? This is *the* one question, with those of the diagnosis and of the treatment, which interests the physician and the patient.

Treatment.—The causes (all mental emotion, agitation, passion,) must be most carefully avoided ; all sources of gastric and intestinal irritation must be removed. I believe the most specific preventative to be systematic walking exercise, and especially a pedestrian tour. I am convinced that I have seen the best effects from a light mercurial conjoined with ipecacuan and squill, and an aperient, taken so as gently to affect the mouth and act on *all* the secretions and excretions, the mercurial cachexia being prevented by air and exercise. The head should be kept cool by a lotion, consisting of one part of alcohol and three of water, the feet guardedly warm and dry. Sinapisms should be applied to the nape of the neck, extending to behind the ears. Dry cupping, and cupping with simple or crossed incisions, and with the detraction of the appropriate quantity of blood, have proved most useful. But this is rather the treatment of the permanent effects of congestion. The most important treatment consists in avoiding the exciting causes of trachel-

ismus, and its effects. It is obvious that, if we would save the brain, the intellect, and the limbs, we must deplete the veins!

To recapitulate:—what shame does to the face, neck, and breast, through the contraction of the platysma myoides on the external jugular, other agitations and passions, and excitants of reflex action, effect on the cerebrum or medulla oblongata, or both, by the compression or obstruction of the internal jugular or vertebral. The former is seen, the other is deduced from the symptoms, consisting of paroxysmal, cerebral or spinal seizures. If repeated, the cerebral or spinal veins, or the intermediate blood-channels between these and the arteries, become dilated or varicose, or yield an effusion of serum—whence persistent forms of the same diseases. Of these, the first should be subdued, the second averted, by prompt, and effectual cupping.

In subsequent papers, I propose to treat chiefly of a parallel between Inflammation and Congestion of the Nervous Centres.

ANEURISM OF THE CORONARY ARTERY.

Dr. Peacock, Physician to the Royal Free Hospital, has recorded at length the particulars of a case of this very rare disease. He has also, in the same paper (*Edin. Monthly Journal*, March 1849), collected the published cases of this affection: viz., 1. Case of an old soldier, detailed by M. Bougon. The right coronary artery was aneurismal for an inch and a half from its origin. (*Bib. Médicale*, tom. xxxvii, 1812): 2. Case of an old currier, described by M. Peste. There was dilatation and aneurism of the left coronary artery. (*Archives Gén. de Médecine*, 4me serie, tom. ii, p. 472): 3. Case of a man forty years old, related by Hedland, and referred to by Otto; which proved fatal by rupture into the pericardium. (*Otto's Path. Anatomy, translated by South*, p. 319; quoted from the *Svenska Läkara Sällskapets Handlingar*, vol. iii, p. 181): 4. Case briefly noticed by Merat, who states that he had observed "an erosion of the coronary artery, which had given rise to a pouch formed in the thickness of the left auricle, which would have contained a small nut". (*Article, Cœur* [*Pathologie*], *Dictionnaire des Sciences Méd.*, tom. v, p. 484). See also a paper by M. Aran, in which the cases of Bougon, Peste, and Merat, are quoted, in the *Archives Gén. de Médecine*, 4me serie, tom. xiv.

Dr. Peacock's patient (Richard Appleton, aged 51, a butcher) was admitted into the Royal Free Hospital on the 2nd of Dec., 1847. It was ascertained that he was of very irregular habits, and for the last month had been so ill as to be incapable of following his employment, and had, in consequence, received parish relief. He had had rheumatic pains, but not, so far as could be ascertained, rheumatic fever. He boasted of the great weights which he had been in the habit of carrying. He had long had a severe cough, and had suffered from difficulty of breathing. He was much emaciated. From torpid state of mind, he could not give any account of his previous state. The pulse was 144, and extremely feeble. The tongue was red at the edges. Treatment produced apparently some alleviation of the symptoms; but for the details, we must refer to the original paper. On the 12th of December, the following occurs in the report:—"Loud sonorous rhonchus, with sub-crepitation, existed in all parts of the chest; and in the region of the heart, and along the course of the sternum, a peculiar sound was heard, exactly comparable to that produced by beating egg with a spoon or fork. This sound was very distinct about the middle of the sternum, and on the right side of that bone, while it was imperfectly audible in the situation of the apex. It was double in its character, and seemed rather to replace, than to be added to, the natural sounds." He died on the evening of the day on which these observations were made.

Necropsy on the afternoon of the following day.

The Brain displayed old thickening and opacity of the arachnoid mem-

brane on the superior surface of the hemispheres, and adhesions between that membrane and the pia mater. The amount of fluid in the ventricles and at the base was trivial. The substance of the organ was healthy. Both Lungs, especially the right one, were emphysematous in front, and nearly covered the pericardium. The posterior, and especially the inferior, parts of both lungs were much engorged and loaded with frothy serum, so as scarcely to crepitate when compressed. The bronchial tubes were dilated, and contained much muco-purulent fluid; and the mucous membrane was reddened. The degree of injection of the membrane, and the amount of secretion, increased as the tubes diminished in size, and were most marked in the lower lobes. The left lung was most engorged. The Pericardium was distended by pale yellow-coloured sero-purulent fluid, and its surfaces (both attached and free) were covered by layers of lymph of a soft consistence and delicate lace-like texture. On the auricles the effusion was more flocculent, while on the ventricles it was more solid and laminated. The subserous cellular tissue, over all parts of the heart, was extensively infiltrated with serum and pus; and the muscular substance was softened. At the upper and outer part of the front of the left ventricle, there existed a protuberance about the size of the half of a walnut, which, like the rest of the surface, was covered by a layer of lymph, and beneath this by a patch of white false membrane of old date. On bisecting this projection, it was found to be an aneurism of the left coronary artery.

The Aneurism was situated on the anterior branch of the artery, at a distance of thirteen French lines from the origin of the vessel from the sinus of Valsalva, and ten lines from the point at which it divided into its two primary branches. It was of a nearly spherical form, and had a diameter of eight and a half lines. Externally, it was covered by the pericardium and the layer of false membrane before mentioned, and internally it was imbedded in the wall of the left ventricle.

The aneurism was filled by coagula, arranged in laminæ, some of which were partially decolorized; and the coats on the external side were so extremely thin, and so intimately connected with the outer layers of coagula, as to be inseparable from them. The sac was entire, and the artery communicated with it at its posterior side, somewhat obliquely, the distal portion of the vessel being displaced by the tumour, so that a probe could not be passed from the canal of the artery above the aneurism, into the vessel beyond it. The orifice of the left coronary artery was considerably dilated, and its calibre, from its origin to the seat of the aneurismal sac, was much increased. Its coats were converted into a solid cylinder of bone; beyond the aneurism, the vessel was less diseased. The right coronary artery was somewhat dilated, and its coats were, in places, studded with cretaceous plates.

The Heart.—The tricuspid and pulmonic valves were healthy. Both ventricles were dilated. The cavity of the left ventricle was prolonged and expanded at the apex, and the muscular substance was there extremely soft, and a coagulum, partly decolorized, adhered firmly to the endocardium. The aortic valves were somewhat thickened and adherent at their angles, but were competent; and the mitral valve was healthy. The aortic aperture admitted a bulb thirty-six French lines in circumference, and the orifice of the pulmonary artery, one of thirty-nine lines. There was thickening and opacity of the lining membrane of the left auricle. The Aorta was lined by a distinct layer of lymph over a considerable extent of its ascending portion, and the serous membrane was much reddened. There were several patches of atheroma around the origins of the coronary artery, and in other parts of the aorta.

Dr. Peacock remarks, that this case presented the characteristic symptoms of the influenza which prevailed at the time of the patient's admission, viz., extreme prostration of strength, and great muscular debility. The extensive

capillary bronchitis, the pericarditis, and endocarditis, were also occasionally present in the severer class of cases. "It may be doubted," says Dr. Peacock, "whether the aneurism of the coronary artery exerted much, if any, influence on the fatal result; the accumulation of coagula in the aneurismal sac, and the consequent obstruction of the artery, having probably taken place only within the last periods of life." In explanation of the rarity of aneurism of the coronary arteries, Dr. Peacock refers to the researches of Dr. Norman Chevers, in *Guy's Hospital Reports*, 2nd series, vol. i, p. 103, and vol. v, p. 40. If the lining membrane of these vessels be raised, a strong band of longitudinal fibres is exposed, which is very largely developed around all parts of the canal. A provision of this description must tend materially to defend the coronary arteries from dilatation, and especially partial dilatation. Indeed, a sacculated aneurism seems only likely to be formed after the rupture of the longitudinal fibres. Thus we can understand, that while fusiform dilatation of the origins of the coronary arteries is occasionally seen, and, under long-continued obstruction at the right side of the heart, the coronary arteries throughout their whole course may be enlarged, yet that of true circumscribed aneurism there are only three or four recorded instances.

Dr. Peacock considers that there are no data from which rules for the detection of aneurism of the coronary arteries can be deduced. The peculiar sound which he heard, he thinks was due to the beating of the heart, in the large amount of thickish fluid contained in the pericardium; and that the presence of the emphysematous lung, in front of the distended pericardium, was also concerned in its production.

TREATMENT OF DIABETES.—MR. C. F. PALMER'S SUBSTITUTE FOR BREAD.

A newly discovered substitute for bread, adapted for diabetic patients, is announced, and as it is commended to the profession by Dr. John Percy of Birmingham—a gentleman who is a good chemist as well as a good physician—we augur well for its success as an adjuvant in treating a class of cases, generally so very disheartening to the practitioner. We quote entire Dr. Percy's communication to the *Lancet*. (March 17, 1849).

"It appears to be now generally admitted, that in the treatment of diabetes mellitus, amylaceous matter should, in a greater or less degree, be excluded from the diet; but, as is well known, under such restriction of food, the diabetic patient soon becomes weary of the ordinary kinds of azotised matter, as beef, mutton, etc., hence various substitutes for common bread have been proposed. Some years ago, my friend, Mr. Morson, of Southampton-row, London, prepared, at my request, specimens of bread containing gluten in various proportions, but it was only relished by the patient when it contained a considerable quantity of starch; and when the proportion of gluten was increased beyond a certain amount, it became so tough and tenacious as to be extremely disagreeable. I have also made trial of gluten bread prepared at Paris, whence it was brought by Mr. Morson, but with no better success. Recently, Dr. Prout has published a receipt for a kind of bread devised by his patient, the late Rev. S. Rigg (vide *Stomach and Renal Diseases*, fifth edition, p. 44), and this is probably the best substitute for common bread which has hitherto been produced. Some time ago, Mr. Charles F. Palmer of this town, prepared for me, with great care, specimens of bread from Dr. Prout's receipt, but patients to whom it was given complained of some difficulty in swallowing it, owing to the large quantity of bran which it contained. Mr. Palmer then suggested the use of the matter of rasped potatoes, left after the complete removal of the starch by washing, to replace the bran. He carried the suggestion into practice, and produced a kind of bread which I think deserves the attention of the profession. It has been

employed in the General Hospital in this town, especially by my friend Dr. James Johnstone, and also by several private practitioners, with decided advantage. In composition it may be considered as Mr. Rigg's bread, in which the bran has been replaced by the residual matter of the potatoes abovementioned, and in the fact of its being rendered light and porous by hydrochloric acid and carbonate of soda, precisely as is the case with Dodson's unfermented bread.

"I here introduce Mr. Palmer's receipt:—Take the ligneous matter of sixteen pounds of potatoes, washed free from starch; three-quarters of a pound of mutton suet; half a pound of fresh butter; twelve eggs; half an ounce of carbonate of soda; and two ounces of dilute hydrochloric acid. This quantity to be divided into eight cakes, and, in a quick oven, baked until nicely browned. It is, as must be obvious, an expensive article, but with many diabetic patients this will not be an object of consideration. It is somewhat improved in taste by being slightly toasted. At first, gum arabic, in sensible quantities, was introduced into this bread, on the ground of the assertion of Professor Graham, that when that substance is taken by a diabetic patient, the proportion of sugar evolved from the system is not thereby increased, and that, consequently, it might probably supply matter for pulmonary oxidation. However, it was found that it rendered the bread tenacious and disagreeable, so that its use was subsequently abandoned. I wish it to be understood, that whatever merit there may be in the production of this bread, is entirely due to Mr. C. F. Palmer. My friend, Dr. Evans, has suggested, and I think with reason, that the bread might probably be improved by the addition of a certain proportion of bran; and, accordingly, Mr. Palmer has already made some experiments upon the addition of bran, and with a satisfactory result."

JUICE OF THE FRESH ROOT OF THE ELDER, AN EFFICACIOUS REMEDY IN DROPSIES.

Boerhaave, Gaubius, Sydenham, and, more recently, Martin-Solon, have recommended the juice of the inner bark of the common elder (*Sambucus nigra*) as of great efficacy in dropsies. M. Réné Vanoye strongly recommends, for the same purpose, the fresh juice of the root. The following are the conclusions which he has arrived at, as stated at p. 246 of Bouchardat's *Répertoire de Pharmacie* for Feb. 1849:—

1. The fresh juice of the root of the elder may be administered in all serous accumulations and infiltrations, which require the use of drastics. 2. It generally acts with greater energy and rapidity than the most active purgatives. 3. There is no advantage in combining it with drastics or diuretics: its action is never more apparent than when used alone, and to the exclusion of other treatment. 4. The first doses ought to be pretty strong: when they cause vomiting, the use of the medicine must not be abandoned, but it ought to be suspended for some days, if the vomiting be continued and severe. It is rarely necessary to give more than from 120 to 150 grammes, by the mouth, in spoonfuls. 5. Occasionally, this juice cures dropsies when other means fail. 6. The dangers connected with its employment are not serious. M. Vanoye adds: "I hope that these assertions, founded on actual observation, will induce physicians, especially those who practise in the country, to have recourse to a substance which can be used with such facility, and the efficacy of which is so great."

Pereira does not mention the root of the elder; but with reference to the *inner bark*, he says: "It has been used as a hydragogue cathartic in dropsy. It may be given in decoction (prepared by boiling one ounce of the bark in O ij of water to O j) in doses of f. ʒ iv. Smaller doses have been used as an aperient and resolvent, in various chronic disorders."—*Edit.* 1842, pp. 1442.

SURGERY.

LIGATURE OF LEFT SUBCLAVIAN ARTERY FOR SUBCLAVIAN ANEURISM: REMARKABLE DEVIATION OF THE VESSEL AND CHANGE OF ITS RELATIONS.

The patient was a lady, thirty years of age, who came under the care of Dr. J. M. Warren, of Massachusetts, in December 1847, for an aneurismal tumour, about the size of a pigeon's egg, situated just above the scapular end of the left clavicle. On searching for the subclavian artery at the point where it usually passes over the first rib, no vessel could be found in that situation. Different parts of the neck were then explored, which led to the discovery of a large artery passing obliquely upwards, parallel to, and about an inch removed from the external border of the trapezius muscle. Compression on this vessel caused a cessation of the pulsation in the tumour, and also of the pulse at the wrist. The first and part of the second rib were found passing obliquely across the neck above the clavicle. The insertion of the anterior scalenus muscle was at length distinguished; the tubercle on the first rib could not be discovered. In this case, the spine and ribs seem to have been carried upwards, while the sternum was moved in an opposite direction. The lady had formerly been affected with club-foot and double curvature of the spine, for which she had been successfully treated. In immediate contact with the artery, the brachial plexus of nerves was discovered. An operation was performed by making an incision, two inches long, from near the outer and upper edge of the sterno-mastoid muscle, in the direction of the scapulo-clavicular articulation, and about an inch from the edge of the trapezius muscle. A nervous band of some size was encountered, and at its side, directly over the artery, a large vein, apparently the external jugular. Dragging on the nerve caused a disagreeable and somewhat painful sensation in the arm. On passing, after opening the sheath of the vessel, the aneurism needle from below upwards, it at once encountered and raised the lower nerve of the brachial plexus, which was in most intimate contact with the artery. By depressing the handle, and urging the point forward, with careful manipulation, the eye of the needle was, without difficulty, brought out between these two organs. When traction was made downwards, before tightening the ligature, painful sensations in the arm were produced; but no pain was felt when the traction was made directly upwards. The ligature was then tied; and the pulsations in the aneurism, as well as those of the radial artery at the wrist, at once ceased; and all appearance of the tumour vanished. The ligature did not come away, though traction was used frequently, till ninety-six days after the operation, the patient having in the mean time done well. When last seen, before making the report, nearly nine months after the operation, she was quite well, and had recovered the use of her arm. The aneurismal tumour had in a great measure disappeared, but still conveyed the idea of containing a fluid. Directly on its surface was a very large arterial trunk, supposed to be the supra-scapular, pulsating powerfully, and at first giving an appearance of pulsation to the tumour, but capable of being separated from it. The pulse at the wrist had returned, but was a little less strong than on the opposite side.—(*American Journal of the Medical Sciences*, January 1849.)

MATERIA MEDICA AND PHARMACY.

CITRATE OF MAGNESIA.

This substance is a tribasic salt; or, in other words, it is composed of one equivalent of citric acid and three of magnesia. We believe that it is much used by some physicians in this country in extemporaneous prescriptions.

It has lately been made the subject of investigation by M. Larbaud, from whose paper (*Répertoire de Pharm.*, Février 1849, pp. 232), on its chemical constitution and physiological effects, the following remarks are taken :—

M. Larbaud gives a table of 160 cases in which it had been used as a purgative. The patients were treated in the medical wards of the hospital of St. Anthony, under the direction of Dr. Vernois. The age and constitution, the diseases under which they laboured, the dose and mode in which the salt had been prepared, and the more marked physiological manifestations, were all carefully noted. From these observations, it appears that the citrate of magnesia, properly prepared, and given in doses sufficiently large, may be used as a substitute for the other saline purgatives, and that while it is equally prompt and energetic in its action, it is better tolerated by the stomach. It possesses over them the advantage of an agreeable taste, which, though slightly acidulous, has no influence on its action. Given in small doses, it acts as a mild laxative, occasioning no pain, and continuing its action for several days: in large doses, it never causes violent colic; and according to the statements of many patients, who have taken it, and were familiar with the effects of Seidlitz water and purgative lemonade, it is much less irritating than they are. Like other vegetable salts in solution, it is prone to decomposition, and cannot be kept ready-made, like Seidlitz water; but as it admits of being prepared so easily and so quickly, this need be no objection to prescribing it.

The three following formulæ are given by M. Larbaud, for the preparation of citrate of magnesia :—

1. Take of Carbonate of Magnesia, pulverized in a mortar . 18
— Citric acid 27.15
— Filtered water, heated to 70° C. . . 500
— Lemon syrup 60

Mix the magnesia with one portion of the water, and with the remainder dissolve the citric acid in a porcelain mortar: sweeten the solution of citric acid with the syrup, and pour it into a bottle: then add quickly the milk of magnesia. The bottle must be instantly corked, and the cork well secured by packthread or iron wire.

2. Mix the ingredients in the porcelain mortar, and when the combination is complete, filter and bottle the liquor: after cooling, add the syrup, and then cork the bottle. This formula is applicable to the preparation of the citrate from calcined magnesia.

3. Operate as above: add to each bottle, two grammes of bicarbonate of soda, and the same quantity of coarsely-powdered citric acid. Cork the bottle quickly and securely, and then turn it upside down.

The medicinal properties of the citrate do not seem to be influenced by its method of preparation: the gaseous product is rather the most active.

COLLODION, IDENTICAL WITH THE "LIQUOR CONSTRINGENS SCHOENBEINII."—QUESTION OF PRIORITY.

In Number II, p. 206, we did not sufficiently point out that to Dr. C. F. Schoenbein of Basle, belongs the merit of discovering this substance, and of applying it to surgical purposes. Dr. S. thus writes :—"In the middle of December 1845, I discovered an organic compound, soluble in common ether, which in its dissolved state has ever since been usefully employed as a surgical remedy, and introduced into our pharmacopœias by the distinguished surgeon of Basle, Dr. Jung, under the term "Liquor Constringens Schoenbeinii." I had no sooner found out the ethereal solution, than I recommended M. Jung to try its surgical effects, and from very numerous experiments made in our hospital and elsewhere by that gentleman, it appeared that the said liquor proved to be most efficacious in healing, 1, chilblains of all

classes; 2, wounds produced by fire; 3, soreness of the skin of different descriptions; 4, certain swellings of the feet, &c. To produce those healing effects of the liquor, which I propose to call Ether Glue, or Ether Balm, the suffering part of the body is immediately to be covered with the solution, by the means of a common pencil, such as is used for painting. In cases of exuding wounds, the sore part must, previously to that operation be covered by sticking plaster. Some of my children suffering much from broken chilblains, I cured with the liquid in a few days.

Many other Swiss physicians and surgeons, and particularly Drs. Miesher and Dennue, of Berne, fully corroborated by their experiments the surgical results obtained by Dr. Jung, so that the liquid has been very frequently used these last two years. Dr. Jung communicated his results to the Philosophical Society just two years ago, and did more fully so to the Swiss Association for the Advancement of Science, at a meeting which took place at Schaffhausen, eighteen months ago. The paper read by Dr. Jung was published in the *Transactions of the Society*. As there is hardly any doubt that what the Americans have lately called "collodion," and stamped into a new invention of their own, is in fact nothing but the Liquor Constringens, known and used in Switzerland for nearly three years, everybody must admit that the priority of the preparation and surgical employment belongs to Switzerland, and not to America. Some years ago I sent to a number of scientific friends, ex. gr., to Faraday, Herschel, Berzelius, and Poggendorff, little transparent vessels made out of the Liquor Constringens, and I have no doubt that if my friends should put their little bells into common ether, they would see them readily dissolved, yielding a fluid closely resembling the American collodion." [*Lancet*, March 17th, 1848.]

OBSTETRICS.

THE STERILITY WHICH IS REMEDIABLE BY MECHANICAL MEANS.

Mr. G. T. Gream, Surgeon-Accoucheur to the Queen Charlotte's Lying-in Hospital, has published two papers in the *Lancet* (p. 91 and p. 204 of vol. i, 1849), in which he draws attention to the management of the local and mechanical impediments to conception, viz., obstructions at the orifice of the vagina and os uteri. The following is the substance of his communications.

I. Obstructions at the Orifice of the Vagina. A lady, four months after marriage, had an unbroken hymen, and impaired health, owing to the excitement caused by the frequent attempts at, but non-completion of, sexual intercourse. When Mr. Gream was called to see her, he found her in an hysterical fit, lying insensible on a sofa. On the following day, having ascertained the nature of the case, he introduced into the vagina a large-sized metallic rectum bougie, causing a good deal of pain, and some loss of blood; and on the two following days, a still larger one. A few days afterwards, the husband said that the treatment had been quite successful. This patient, after some weeks had elapsed, was stout and healthy; and in little more than forty weeks from the period of the introduction of the bougies, she gave birth to a child. In another case of the same nature, when the impediment was rather an obstacle *quoad hunc* than anything else, Mr. Gream suggested that the wife should sit over the steam of hot water, that she should apply an unctuous application externally to herself, and "offer the contrary of resistance." Immediately after these recommendations had been carried into effect, conception took place. The patient's health is restored, and she is progressing most favourably in her pregnancy, Mr. Gream has selected this case for publication, in order to show by what simple means, in such cases, the relief of bodily suffering and mental anxiety may very often

be obtained. He had proposed to dilate the vagina of this patient, had not the means recommended proved successful. Mr. Gream has known virginity to exist after marriage, for periods varying from weeks to months, and even years. In such cases, he has found an unbroken hymen, or so complete a state of contraction and rigidity of the vagina, as to prevent the possibility of its dilatation by the natural means. In the not uncommon cases of unbroken hymen, without any great rigidity, the simple introduction of moderate-sized bougies will, in almost all cases, be followed by conception. The following case is given, as affording an example of a very prolonged virginity after marriage, and of the great benefit in such cases, both morally and bodily, from medical treatment. A gentleman and his wife lived unhappily together for ten years after marriage, in consequence of the inaptitude of the latter having prevented the accomplishment of perfect intercourse. The lady thus unfolded her history:—She had married very young; she resisted through fear; and until within the last year had never experienced the slightest sexual feeling, but now she felt differently; was anxious to become a mother, and to do away with the estrangement existing between herself and husband. The orifice of the vagina was rigid, and required very firm pressure to introduce the finger, and its introduction seemed to cause excessive suffering. No natural means could have caused penetration. Mr. Gream introduced an elastic bougie a little larger than the finger, and for four days afterwards introduced bougies of gradually increased size; the last that was employed being two inches in diameter. Their introduction caused extreme suffering, and some loss of blood. He then desired that for some nights a large sponge tent should be introduced, and kept within the vagina, and removed in the morning; and five days afterwards was able to introduce the largest metallic bougie with comparative ease, and with no pain. He recommended the continuance of the use of the sponge tent during each night for a short period. This lady is not yet pregnant; but the husband is reconciled to her, and pregnancy is expected.

II. Obstructions at the Os Uteri. Impediment at the uterine orifice depends upon unnatural constriction of the cervix, which is found in such cases to have no depression in its centre; its surface is smooth throughout, and upon viewing it through the speculum, the only indication of the position of the os uteri, is a vascular state of that part of the cervix immediately surrounding it. This condition may be met with in those of full habit, as well as in the anæmic and imperfectly developed woman. In both there will usually be much suffering from dysmenorrhœa.

There is also a state giving rise both to sterility and dysmenorrhœa, depending upon a constriction of the internal extremity of the cervix uteri. This may be detected by the introduction of a small bougie, or of any instrument of that form; and it is not necessary to have recourse to inventions for the uterus. The free dilatation of the os uteri, in such cases, is followed in the majority of instances by impregnation.

Should there be tenderness in the uterus or neighbouring parts, it should be relieved previously to the attempt at dilatation; sometimes in women of full habit, the abstraction of blood from the loins is necessary, or from the cervix uteri, by leeches, in order to relieve the inflammation consequent upon excitement not followed by pregnancy. Generally, warm hip-baths, laxatives, and a separate bed, are sufficient remedies for this inflammation or irritation. At first it is difficult to introduce a bougie of even a small size into the os uteri under these circumstances, but once introduced, it can readily be followed by one somewhat larger, and perhaps a third, of still greater size. On the following day, or in some cases after a longer interval, a considerably larger bougie may be passed, and then a dilator may be introduced. Mr. Gream has employed for many years an instrument made upon the same principle as the female urethra-dilator, with two blades, but without the

wooden appendages attached to that instrument; so that when the blades are closed, a simple round steel staff is formed. The point of this is inserted into the os uteri, and the dilatation effected by turning the handle until considerable resistance is offered to the further separation of the blades, or until the patient complains of sickness. This is repeated daily (unless much pain follow), until the os uteri remains open about the size of a goose-quill. In order to facilitate the introduction of the dilator, the patient should lie on her left side, as in labour. In some instances, by applying the dilator through the speculum, increased facility is obtained.

Mr. Gream cites cases from his practice where sterility and dysmenorrhœa were cured by mechanical dilatation of the os and cervix uteri; and alleges that this method of treatment is as common as it is successful. He objects to incising the os uteri. He says: "I have become cognizant of the formation of cicatrices after such treatment, and of permanent alteration in the shape of the uterus, causing, in my judgment, an impediment to conception ever afterwards; and as I have also heard of the occurrence of alarming hæmorrhage at the time of making the incisions, requiring plugs to be introduced into the vagina, I have not been induced to notice this practice further than to observe that it has been proposed and even hazarded." Sponge tents Mr. Gream thinks less useful than his dilator above noticed, which he declares to be both "safe and certain."

While we commend Mr. Gream's dilator as a very useful instrument, we cannot go along with him in setting aside, as always improper and dangerous, the practice of relieving the stricture by incision. We think that cases occur, in which it is the preferable method of cure. At all events, the objections seem insufficient for the positive interdiction of the practice. A small incised wound, in such a situation, cannot be conceived capable by its contraction, "of altering the shape of the uterus", or causing in any way whatever "an impediment to conception." The cicatrices resulting from lacerations of the os and cervix, during labour, are often very considerable in size, and few women who have borne children are without them; yet, it must be very rare indeed for them to give rise to any "impediment", and we are not aware of one case, in which they have been convicted of seriously "altering the shape of the uterus." As to the alarming hæmorrhage resulting from incision, the objection is stronger, and suggests the propriety of *caution*. Very troublesome hæmorrhage occasionally follows the application of leeches to the os uteri; but we do not, on that account, declare that they should *never* be so employed. Sponge tents may often be used with good effect; and we think that the majority of obstetricians, while they may go along with Mr. Gream in thinking well of the dilator, would be sorry to refrain from treating some cases by incision, and others by sponge tents. When rapidity of cure is an object, the former may suggest itself; and in hysterical patients, when the least possible amount of manipulation and of pain are desirable, the sponge tent, smeared with extract of belladonna, is what we would prefer.

USE OF ICE TO PROMOTE UTERINE CONTRACTION.

Drs. Mackall, Skinner, etc., speak highly of the power of ice, to reproduce labour-pains when suspended. It is pounded and swallowed freely. Dr. Mackall says: "During two years I have had frequent opportunities of observing its effects, and in no instance have I been disappointed in its action. In cases where labour-pains had been suspended for twelve or twenty-four hours, they have been renewed promptly and efficiently. In cases of inevitable abortion, when the uterine contractions are feeble and inefficient, and hæmorrhage considerable, I regard it as invaluable."—*Transactions of American Medical Association*, vol. i, p. 234.

WHO INVENTED THE AIR-TRACTOR? DR. SIMPSON, OR DR. MITCHELL?

At p. 205, and more fully at p. 283, we described and commented on the "Suction-Tractor," or "Air-Tractor," introduced to professional notice by Dr. J. Y. Simpson of Edinburgh, as a substitute for the obstetric forceps. A notice of this new instrument was also given in our report of the Edinburgh Medico-Chirurgical Society, at p. 302. Since our last publication, Dr. James Mitchell has not only asserted his claim to this invention (or to speak more correctly, of this practical adaptation of Dr. N. Arnott's proposal), but he has unambiguously charged the celebrated Professor of Edinburgh with appropriating as his own, what Dr. Mitchell says he made known to him by a description and drawings in a class exercise. Dr. Simpson says, that he received no hint from the essay referred to. After this assurance, it is to be regretted, that Dr. M. in a letter to the Gazette, should say, Dr. Simpson "must have been perfectly well aware of its previous application by me." No cause is benefitted by a disregard of conventional courtesy of expression. The following correspondence (which we reprint from the *London Medical Gazette* of 23rd March) unfolds the state of the case between Dr. Simpson and Dr. Mitchell.

No. I. Dr. Mitchell to the *Medical Gazette.*

Nottingham, March 13, 1849.

Sir,—The accompanying correspondence, to which I shall feel greatly obliged by your giving insertion in your valuable Gazette, took place within the last few days, between Dr. Simpson and myself, on the subject of an air-tractor invented by me,—brought before his notice, and afterwards by him displayed before the Obstetric and Medico-Chirurgical Societies of Edinburgh as his own. I have, since the correspondence took place, seen a report of the Obstetric Society's first meeting, at which Professor Simpson's paper on the air-tractor was read. In this production he states that no one, before himself, as far as he was aware, had made a practical application of Dr. Arnott's suggestion. The medical public will now see that he must have been perfectly well aware of its previous application by me. I received, yesterday morning, a note from Dr. Simpson's assistant, Dr. J. M. Duncan. He says that neither Dr. Keith nor Dr. Ziegler saw the exercises, but that he himself read and decided upon them. It can scarcely be credited, that one who had the means of knowing to whom the papers belonged, should have been allowed to indulge his likes and dislikes towards certain of the competitors, by his decision upon their papers: supposing, however, such to have been the case, it is a violent improbability to suppose that Dr. Duncan, who assists Dr. Simpson in everything, and is constantly with him, should have kept the article on the *air-tractor* from his knowledge, especially when he knew that the professor had "thought and talked of it" so long ago. I have the honour to be, dear sir, yours very truly,

James Mitchell.

No. II. Dr. Mitchell's First Letter to Professor Simpson.

Nottingham, March 3, 1849.

Dear Sir,—I was rather surprised, this afternoon, on seeing an account of an air-tractor, said to be invented by you, and which Mr. Higginbottom pointed out to me in the *Lancet* of to-day, to find that you had not acknowledged me as the discoverer of the application of the principle in such instrument. In your lectures of session 1847-8, you stated to your class, which I then attended, that Dr. Neil Arnott had, some years ago, attempted to apply traction to the fœtal head, when low down in the pelvis, by means of a leather sucker, similar to that used by boys as a plaything for lifting stones,—that you had yourself attempted in vain, at the Edinburgh Maternity Hospital, to apply such a leather sucker to a child's head,—that you could never get it to adhere,—and that if any gentleman in the class had mechanical genius enough to contrive a mode of applying the principle, you should be very glad to hear of it. I accordingly applied the principle, and

showed drawings of its applications to several students now at the university. I took advantage of your examination, towards the close of the session, to make my discovery known to you, which I did in answer to question No. 3, respecting the second position, where, in speaking of the rotation of the head from the third into the second position, or from an occipito-posterior to an occipito-anterior position, I mentioned my discovery in parenthesis. As I got my answers back again at the close of the session, and since I have them now before me, I may as well extract from them the part that I refer to. After speaking of the caput succedaneum, formed when the head is delayed after its rotation into the second position, I said: ("It is when there is difficulty at this part of the labour that Dr. Neil Arnott has suggested the possibility of a slight degree of traction being obtained from a leather sucker; such an apparatus seems to be inapplicable, but, acting on the suggestion, I would propose an instrument not more bulky than Dr. Lowder's vectis, and of which, on another sheet, I will make a rough sketch. It is on the principle of the air-pump, and consists of a tube and cup, by applying which to the child's head, a more or less partial vacuum can be obtained, quite sufficient to afford considerable extractive power without injury to the child, and the instrument might be modified in a thousand ways.")

On another sheet I did accordingly make a rough sketch of the instrument, with an explanation of its action. In the explanation attached to the sketch, I stated that the rim of the flattened cup might be made of "india-rubber or leather, and greased" (if the latter substance) "with lard, previously to its adaptation to the fœtal head." I have now before me the very drawings I sent in to you, and which you saw along with my written answers to the questions. I must confess that I felt considerably chagrined on finding that you never once mentioned the subject again, either to the class or to myself; and that, although before the whole class you said you should be most happy to hear of the application of the principle in question, when I showed you the application of it, I was treated with silent contempt. Still more chagrined was I to find to-day, that after I had been discouraged from bringing the instrument before the public by the apparent contempt with which you treated my invention, you yourself should be the first to bring it into notice, without giving the remotest hint (at least as far as the report in the *Lancet* gives) that its real discoverer was one of your own pupils. Trusting that you will do me the justice to mention my name in connexion with the instrument, and that you will inform me of your intention on this subject by an early post, I remain, sir, your obedient servant,

JAMES MITCHELL.

No. III. PROFESSOR SIMPSON'S reply to DR. MITCHELL.

Edinburgh, March 6, 1849.

DEAR SIR.—I have received your letter of the 3rd of March, and I can assure you that in the construction of the air-tractor I received no hint or suggestion from the competition class exercises, which you wrote at the end of the session 1847-8. I had thought and talked often of making an air-tractor, such as I have latterly constructed, long before you were my pupil. And I never, as far as I know, looked at the prize exercises which you wrote, because, as I have more than once publicly stated on this point, I do not profess to have time at my disposal to take all the necessary great care and trouble, which are requisite to decide among a number of different competitors for class honours; and besides, I have always confided the reading and determination of the prizes and exercises to others, upon whose judgment I could implicitly rely; believing I thus best avoided all chances and possibility of bias and pre-judgment. I have the honour to be, very faithfully yours,

J. Y. SIMPSON.

P.S. If you send your letter for publication (to which, of course, I can have no possible objection), I hope you will do me the favour of adding this

note to it. And I am sure your own feelings of candour will lead you to do me this justice.

No. v. Dr. Mitchell's Second Letter to Professor Simpson.

Nottingham, March 8, 1849.

Dear Sir,—I this morning received your letter of the 6th inst., in answer to which I have only to state, that the remarks you made on the last day of the session, led me to suppose that you had read the answers to the questions, or, at any rate, had had them read to you. I was still further confirmed in opinion by the statement of Mr. Ziegler, jun., who told me, casually, one day, in the dissecting-room, that you read some of the questions yourself, had others read to you, and afterwards submitted the whole of them to the inspection either of Dr. Ziegler or Dr. Keith, your friends. This was, of course, a mistake on the part of Mr. Z., or must have had reference to some previous year; since I have your word for the fact of your never having, "as far as you know", *looked* at the exercises which I wrote, because, as you have more than once publicly stated, you "do not profess to have the time necessary for deciding amongst a number of different competitors." I may here observe, that although I attended your lectures very regularly during two six-month sessions, I never heard you make such a statement: I do not, however, for a moment doubt the fact of your having said so in my absence. I may also observe, that there is a great difference between the amount of "great care and trouble" requisite for decision upon, and that required for the simple perusal of, exercises—or, perhaps, having them read to one whilst sitting at breakfast. Bias and pre-judgment there could be none, unless you made yourself acquainted with the names belonging to the several mottoes of the competitors. If you had "often thought and talked of making an air-tractor, such as you have latterly constructed, long before I was your pupil", I am willing to conclude, in justice to you, that you had quite forgotten all about it, when, in your lectures of last session, after mentioning Dr. Neil Arnott's leather sucker, you confessed that you did not know how the principle could be applied. Since you will, doubtless, mention the air-tractor in your class-room, when you arrive at that part of your course in which Dr. Neil Arnott's leather sucker was last session mentioned, and in which the air-tractor you invented and talked about so long ago, was not even hinted at, I feel myself called upon, in self-justification to those members of your present class who may have known me when in Edinburgh, to publish the whole of this correspondence. I have the pleasure to subscribe myself, yours, very faithfully,

James Mitchell.

PSYCHOLOGY.

DR. GUGGENBÜHL—TREATMENT OF CRETINISM.

The *Annales Medico-Psychologiques* for November 1848, contains a *résumé*, by Dr. Gosse, of a report published, in 1846, by Dr. Guggenbühl, the founder of the Asylum for Cretin Children, on the Abendberg, in the canton of Berne.[1] In his report, Dr. Guggenbühl keeps in view the close relation which exists between the mental and corporeal powers, and points out the disastrous influence which is produced on the mind by morbid alterations in the body. He proves that physical education should be accompanied by intellectual, moral, and religious training. In his preface, he points out that it is a duty of Christian charity, and a noble enterprise, to ameliorate the condition of those unfortunate beings, the Cretins, and to render them, as far as possible, useful members of society. In proof of the importance of the subject, he says, that along the banks of the Danube, in Austria, according to Dr. Schausberger, &c., of Steyer, "there are vast and populous parishes, where,

[1] Briefe über den Abendberg und die Heilanstalt für Cretinismus.

in the annual recruiting, there cannot be found a single man capable of bearing arms. At Cros-Pechlarn, and in the villages about Pechlarn and Brunn, not a single family can be found, without at least one of these unfortunate beings; but, on the contrary, many families are entirely composed of Cretins or demi-cretins." The subject of Cretinism has been, since the year 1840, treated of by several authors:—viz., Dr. Demme of Bern, Dr. Buek of Hamburg, Dr. Otho Thieme of Weimar, Dr. Roesch of Stuttgart, Dr. A. W. F. Herckenrath of Amsterdam, Dr. B. Beaupré of Friburg, Dr. Twining of London, Drs. Maffei and Roesch of Erlangen, M. Michaëlis of Aarau, Dr. E. Wells of London, Dr. Chavannes of Lausanne, Dr. M. Viszanik of Vienna; and in several Reports.

Dr. Guggenbühl believes that the mind, though existing independently of the body, is dependent, for its due manifestation, on the healthy condition of its material envelope; that on a healthy condition of the brain and spinal chord depends the healthy state of the body; and he traces the origin of the morbid symptoms, which exist in Cretins, to defective or improper nutrition in early childhood. The patients then deteriorate from year to year, until the human dignity becomes entirely degraded. Cretins have a mind as capable of perfection as that of other men; but their defective material organization retards its development. The object in the treatment of Cretinism is to establish an equilibrium, by remedying the morbid alterations in the body, and by applying a judicious course of moral and intellectual education to the development of the mind.

Among the *causes* of Cretinism, local or endemic circumstances are the most powerful. This has been shewn by Dr. Fodéré, in the valley of Aosta, where the atmosphere is maintained in a state of humidity, by the exhalations from the marshes, and from the river which flows slowly through it; the lofty mountains, by which it is surrounded, serving at once to reflect the heat of the sun, and, with the curvatures of the valley, to retard the free current of air. Dr. Fodéré has further found, that the most humid situations contained the greatest number of Cretins. Now it is just this state of endemic influences which favours the development of the scrofulous diathesis, with all its attendant evils. It has been proved, that the progress of Cretinism in the constitution can be arrested, by removing the individual to a locality where the air is drier, purer, fresher, and more favourable to healthy nutrition. Dr. Claivac of Martigny has also seen benefit arise from the use of baths, frictions along the spine, and exercise in pure air; in a word, from the use of those means which are proper in scrofula.

Following out these and other facts,—among which may be noticed the development of goitre and Cretinism in healthy persons and cattle coming to reside in malarious districts, and the improvement manifested on their removal,—Dr. Guggenbühl recognises scrofula as the determining cause of Cretinism. In his report, he points out the connection between them, as well as the influence of scrofula, as shewn in the birth of Cretin children. In conformity with incontestable experience, and with this theory, he has founded the institution on the Abendberg, for the medical and prophylactic treatment of Cretin children.

Diagnosis between *Idiocy* and *Cretinism*.—Idiocy has its seat in the brain, and may co-exist with a more or less healthy conformation of the body. Its subjects hear, but do not understand; they see, but do not perceive; they have no idea, and exercise no reflection. Idiocy may be congenital, from atrophy of the brain, but commonly it is the consequence of cerebral irritability or of Cretinism. It is not uncommon for this condition to succeed a state of intelligent but over-excited childhood, predisposing to a diseased of the brain.

In Cretinism, on the other hand, notwithstanding the diseased condition of the body, there is but a weakness of the brain. There is an obscure perception of objects, a weak association of ideas, a vagueness in the impressions produced on the brain by the organs of sense, a weakness in

judgment and comprehension, which do not exclude the idea of possible perfection, the defect being in quantity rather than in quality. Cretinism is often found in individuals of a wonderful memory, and astonishing faculty of comparison, who easily perceive the characters of external objects, but who may, from neglect, fall into mental alienation.

This obscurity in the perception of images, is the most characteristic mark of Cretinism, and arises from the insufficiency of external objects to stimulate the *torpid fibres of the brain*, so that their impressions are confused. The variable temper of Cretin children arises from the same cause, and it affords a key to their intellectual and moral treatment. This treatment consists in first making the individual acquainted with the resemblances and differences between objects, with their size, colour, form, &c., and then by connecting these ideas, so as to form a whole. When, at length, a sentiment of the existence of an eternal and infinite Deity, the rewarder of good and punisher of evil, becomes impressed on the mind of the child, then his *reason* is observed to develope and manifest itself. Cretins are often possessed, in a more or less marked degree, of memory, mechanical talents, of affections, desires, and passions. Dr. Guggenbühl recognises the idea, that an early intellectual education, if too hasty, is productive of disastrous consequences, when the intellectual and physical powers are both normally developed ; but this principle, though applicable to most children, is not so to Cretins. The special character of Cretinism, is an increasing torpidity of the central parts of the nervous system, which necessitates immediate treatment at an age when these organs are capable of exercise. When an individual is attacked with Cretinism, it is possible for him to recover the perfect use of his intellectual powers, if he be, without delay, subjected to the treatment proper to his situation. This treatment should be intellectual as well as physical ; but, before all, the development of the body must be favoured, and morbid symptoms must be remedied, for the mind cannot be perfectly developed in a diseased body.

The report of Dr. Guggenbühl also contains a succinct review of the principal forms, under which Cretinism is presented.

In the *atrophic* form the spinal chord is chiefly affected, as is shewn by paralysis and atrophy of the extremities. The *rachitic* form, as its name indicates, has for its special character softening and deformity of the bones, independently of nervous and muscular torpidity, engorgements of the lymphatic glands, &c. The *hydrocephalic* form is characterised by a tendency to congenital hydrocephalus, with weakness of the functions of the organs of the senses, languor of the moral and intellectual faculties, and seems to be a transition to congenital Cretinism. *Congenital* cretinism is shewn by a striking disproportion between the trunk and extremities, resulting from irregular and diseased nutrition, and presenting all imaginable degrees, from simple misproportion, to entire deformity of the organs. The same degrees of gradation are observed in the mental faculties, from simple torpor to the most complete state of idiotcy. The only efficacious method of preventing this, consists in the removal of the predisposing and exciting causes, or at least the withdrawal of as many victims as possible from their influence, especially among the poorer classes, who have not the means of readily changing their manner of living. This is a work worthy of the attention of all civilized governments ; and the example has been set by Switzerland, in the Establishment for Cretins on the Abendberg.

Three principal forms of congenital Cretinism are distinguished by Dr. Guggenbühl. Of the first or milder form, the following case may serve as an example. A boy, nine years of age, was received into the establishment. His parents were healthy ; but his maternal grandfather, and his great uncle, had been affected with Cretinism. His brothers had all been subject to convulsions in infancy ; one of them had died of hydrocephalus, and another of *ramollissement* of the stomach. On entering, the patient was the subject of general debility; his knees were bent forwards ; he tottered rather than walked ; his muscular system was atrophied ; his arms were long

and dry, and his body emaciated ; the tongue was thick, and enlarged at the extremity ; his teeth were irregular, mis-shapen, and encrusted; his lips tumid and pendant ; he was affected with continual salivation, fetid odour of the breath, and difficulty in masticating solid food ; the cornea of the right eye was obscured—the result of scrofulous ophthalmia. The head was pear-shaped, but symmetrical ; the forehead retreating, and the back of the head flattened ; the chin projecting, and the countenance pale and lymphatic. The child was of a fair size for his age. His intellect was on a par with the state of his body. His ideas on the most ordinary things were obscure and confused ; his speech consisted of an indistinct and unconnected stammering, and of interrupted sounds ; he succeeded better in making himself understood by signs. The senses were in a normal state of activity. He was envious, jealous, and passionate ; but at the same time, he manifested a sense of having committed wrong, when he struck any of his companions. In his education, the progress of his body kept pace with that of his mind. His strength was so far increased, that he took pleasure in gymnastic exercises. His evil dispositions disappeared, he became gentle, sociable, and obedient; and evinced such a liking for study, that every letter or word which he mastered, caused him to utter cries of joy. His memory was stimulated by the sight of natural objects, or of their representations ; he was slow in understanding, but never forgot what he had learnt. He gradually became able to read and write intelligibly, and to comprehend the grammatical value of some words. His religious education has been conducted on the same principles, and with good result. A second case appears to have been distinguished by a greater amount of hebetude, and a want of speech. Under education, the moral and intellectual faculties were developed in a favourable degree; especially the power of mental arithmetic, which is possessed in a remarkable manner by Cretin children. Speech was slow in being developed ; but was at length obtained.

A second form is designated *mutism of Cretins.* Its subjects differ from the ordinary deaf and dumb, the hearing not being affected. Although among these, some have the hearing affected, the vocal organs changed, and the whole body scrofulous and torpid, yet, in most of them, the hearing is distinct, the eyes lively, the expression animated, and the conformation slender. They are capable of a sustained attention, and, to make themselves understood, employ an expressive pantomime. This form predominates in various parts of the canton of the Grisons, and in the valley of the Rhine, which forms part of the canton of St. Gall.

A third form of congenital Cretinism *(vice de croissance)* is prevalent in some countries, and may be illustrated by the following case. A girl, eleven years old, was only three feet six inches in height ; her face was pale, stupid and large, her abdomen tumid, her extremities short and thick. At first she had some intellectual faculties, which were, however, not developed, so that, when at school, she could not keep pace with her companions. At Dr. Guggenbühl's institution, notwithstanding the difficulty experienced in regaining what had been lost, she made remarkable progress in physical development, in reading, writing, arithmetic, etc. : thus proving that a child, in whom the moral and intellectual faculties have been allowed to deteriorate, may, under judicious treatment, be restored to society, and even become an useful member.

In a more recent letter of Dr. Guggenbühl, he says, that several of the pupils had visited him after two years, during which time they had experienced no return of the malady, and their faculties had attained a considerable degree of development.

From the publication of the report in 1846, to September 1847, twenty pupils had left the establishment, most of them masters of the elementary branches of education, and having their physical powers sufficiently developed, to enable them to follow some occupation. Most of the patients were

improved, and none had died. The moral and intellectual faculties showed evident marks of improvement. Much benefit seems to be derived from the use of external objects, in stimulating the sluggish intellects.

It thus appears that Dr. Guggenbühl is not contented with the good results already obtained, but seeks to form on the Abendberg a model establishment, which may leave nothing to be desired; and, from his uniting the most generous philanthrophy with all which science can teach, no doubt can be entertained of his meeting with still further success.

OPIUM AS A THERAPEUTIC AGENT IN INSANITY.

In *L'Union Médicale* for 15th March, 1849, Dr. Michéa remarks, that there has been a diversity of opinion, as to the propriety of administering opiates in cases of mental alienation. Some, as Lazare Rivière, Daquin, Cullen, Odier (of Geneva), Sutton, and Perry, have boasted of the salutary effects of opium; while others, as Valsalva, Morgagni, Lorry, etc., have proscribed this medicine as most dangerous. Esquirol says but little about it, but appears rather hostile than favourable to its use. From the undeniable utility of opium in *delirium tremens*, M. Michéa has been led to try its effects on several mental affections, as paralytic insanity, acute and chronic mania, monomania, hallucinations, and acute dementia. In insanity accompanied by paralysis, opium has always appeared injurious. Where the memory and imagination retain some vivacity, it causes a momentary increase of delirium, which is succeeded by a marked tendency to intellectual asthenia; where dementia is already advanced, it increases its intensity. In all cases of chronic and paralytic dementia, it produces the precursory symptoms of cerebral congestion, a very common intercurrent affection in such cases. The same remarks apply to acute mania, the symptoms of which are increased, and cerebral congestion is produced, by opium, especially in persons of a sanguine temperament.

Opium has appeared really useful in chronic mania, monomania, either simple or complicated with hallucinations, and acute dementia. M. Michéa illustrates its effects by some cases.

Case I. Madame B., aged 50 years, of nervous temperament, whose mother had been subject to periodic mania, had been from her youth of a restless disposition. In 1845, after some domestic annoyances, she fancied that her chamber-maid had poisoned her; and this was succeeded by a state of most intense mania. She was treated by bleeding, baths, and cold affusions on the head, with the effect of diminishing the delirium. She remained, however, for two years in a state of chronic mania, with incoherence of ideas, but no apparent disorder in actions. Opium was administered, and caused at first a development of symptoms of violence and restlessness; but these disappeared in about eight days. In a very short time, the patient gradually lost the incoherence of ideas, to which she had been subject for two years, and became capable of being restored to society.

Case II. Madame S., aged 28 years, of moderately healthy constitution and nervous temperament. Her maternal grandfather had been insane. She was married, and had always performed the duties of a wife and mother, but learnt that she was the object of calumny to her neighbours. The annoyance occasioned by this, passed into a state of *lypemania*. She imagined herself unsafe in her own residence, and fancied that a plot was being formed against her life. She said she saw individuals of a malignant aspect, whose gestures presaged to her a violent end. On the 23rd of June, 1847, M. Michéa put her on a course of prolonged baths and purgatives, which produced no effect in the lypemania. On the 6th of July, these remedies were abandoned for opium. At the end of some days, delirium was found to be increased, and the lypemania was transformed into maniacal excitement. When being undressed to be put to bed, she offered resistance, uttered cries of distress, and threw in the faces of those who approached her, any object which was within her reach. The

use of opium was persisted in, and the delirium, gradually losing its energy, soon entirely disappeared.

Case III. F., aged 46, a grocer, was the son of a mother who died insane. In November 1847, he complained of being troubled with hallucinations of sight. He daily perceived adroit and active thieves every morning opening the ceiling of his bed-room, and taking possession of his apartment, in spite of his presence and of his attempts at opposition. As this patient, who had several times loaded a musket, with the intention of using it against these pretended robbers, might at any time endanger the lives of the persons who were about him, his family placed him in an asylum. On the 13th December, he was bled to twelve ounces, and put on a course of purgatives and tepid baths, with affusion of cold water on the head. No change was produced at the end of fifteen days. The patient no longer perceived thieves, but fancied he saw his wife prostituting herself to strangers; hence he addressed her with insults and threats of death. M. Michéa administered opium; by the constant use of which for eight days, the hallucinations of sight ceased, as well as the partial derangement of intellect.

Case IV. Eugenia R., formerly an actress, aged 38. Her father had been insane. From an early period of life, her conduct had been irregular. Her character gradually changed; from being gay and amiable, she became gloomy, irascible, and taciturn. Soon, she became indifferent to all that surrounded her, and her countenance appeared impressed with stupor and hebetude. She could not be prevailed on either to move or speak. On the 9th August, 1847, she was placed in an asylum, and M. Michéa immediately commenced the administration of opiates in gradually increasing doses. On the tenth day, there was general delirium; she uttered incoherent speeches, cries, and vociferations without cause. The use of opium was then suspended, and her disordered state was gradually calmed, and the momentary maniacal excitement disappeared, without any return of hebetude and stupor.

The influence of opium is exerted on the ganglionic and cerebro-spinal systems. With regard to the ganglionic nervous system, it depresses the secretory functions of the alimentary canal, producing dryness of the throat, and constipation; but it stimulates the functions of the heart, skin, and sexual organs. It produces acceleration, strength, and fulness of pulse: it causes an increase of the vital heat, and consequent turgescence or expansion of the blood, a principle of sanguineous congestions in internal organs: finally, it promotes perspiration, and excites erection and emission. On the cerebro-spinal system, it acts as a depressor of the sensory and motor functions, relieving pain, and putting an end to spasm; it is a stimulant of the cerebral lobes, and favours the manifestation of delirium.

M. Michéa observes, that insanity is often coincident with pain and spasm. The most striking symptom, the disorder of the intellectual and affective faculties, is not always primary or idiopathic. In most cases, it results from lesion of the ganglionic system, especially of the semilunar ganglia and solar plexus. Lobstein observed a relation between alterations in the appearance of the ganglionic nerves, and some encephalic and abdominal nervous affections. This is worthy of further inquiry, although such an alteration has been observed in various diseases, as in diabetes by Autenrieth; and also in persons of usually good health. Pain, principally ganglionic neuropathy, accompanies the mental affection; sometimes as a cause, sometimes consecutive, and aggravating the mental symptoms. Opium being an anæsthetic, its use will be readily understood: "*Sublatâ causâ, tollitur effectus.*" But it acts also in another manner; viz., by transforming the partial disease of intellect into a general disease, monomania into mania or polymania, or a chronic affection into an acute, which latter experience has shewn to be more amenable to treatment.

Two circumstances appear to M. Michéa to prove the truth of the positions

he has advanced. 1. Opium has been observed, while it almost always increases the delirium of ideas, to very frequently remove the delirium of sensation, *i.e.*, hallucinations and illusions of the senses. This has been adduced by him in support of the opinion which he maintains, in opposition to Esquirol and his followers, that hallucinations do not depend for their *point of origin* on the brain, but on an affection supervening in the course of the nerves of special sense. Their *definitive formation* can only be effected by the cerebral hemispheres. 2. It has often been remarked, that morphia, representing the sedative principle of opium, produces no increase in the delirium of ideas, or much less than crude opium ; hence the preference of morphia to opium, in simple cases of hallucination or illusions of the senses.

Opium being a stimulant of the heart's action, one might be led to infer that the delirium, which follows its use, results from increased flow of blood to the head. But there is no absolute dependence, no necessary relation, between the manifestation of intellectual derangement, and the acceleration of the circulatory movements, for the intellect may remain sound, even where the pulse is 120 in the minute, and the face is tumefied, as in violent exercise, and some cases of fever. Besides, in many inflammations and fevers, especially in meningitis, delirium commences when there is little acceleration of the pulse, and often continues after the disappearance of this symptom.

To obtain advantageous results from opium in insanity, its use must be persevered in for at least eight or ten days, in gradually increasing doses. The preparations most commonly used by M. Michéa are laudanum, the gummy extract, and morphia. Of laudanum, he gives twenty drops the first day, and increases the dose by ten drops each day, till it reaches 120. The dose of the extract is five centigrammes (about three-quarters of a grain), gradually increased, by three centigrammes daily, to six or seven decigrammes (from nine to eleven grains). As to morphia, the dose has been at first a centigramme (rather less than one-sixth of a grain) ; and has rarely exceeded a decigramme and a half (about two-and-a-half grains).

The insane bear opium very well ; with the exception of its occasionally inducing transitory vomiting. If no good result in ten or fifteen days, it should be discontinued : no benefit can be expected after this time, and there is risk of inducing cerebral congestion.

M. Michéa does not seem to have been aware that Dr. Seymour had, sixteen years previously, published his views on the use of *acetate of morphia* in various forms of insanity, in his work entitled "The Medical Treatment of Insanity." He says, "The preparation which I have preferred, and, with two or three exceptions, have always used, is the acetate of morphia ; the mode of preparation, the solution ; forty drops of the solution, which I have generally employed, contain one grain of the alkaloid salt. It has generally been, in mild cases, my practice to begin with a quarter of a grain every night, in solution, then, after a week, to increase the dose to half a grain : it has rarely, in such cases, been necessary to increase the dose beyond half a grain. In severe cases, I begin with half a grain (twenty drops), and increase it speedily to a grain (forty drops) ; rarely, most rarely, beyond this dose. The medicine is given at bed-time, and only at bed-time, the period which is intended for sleep ; but it must be repeated, without the *intermission* of a single night, for several weeks, in mild cases ; for at least three months, in the most severe ones. In some of these cases, at first, sleep is not obtained ; in very few, rest is not produced. Slight nausea, and disturbance of the head, are felt the first few mornings ; but in these cases, almost always at first, and always after a short time, both sleep is procured, and the waking hours are free from pain." (*Thoughts on the Nature and Treatment of several severe Diseases of the Human Body*, pp, 159-160.) Dr. Seymour has seen no case, whether morphia succeeded or not, in which it produced any untoward symptoms.

REPORTS OF SOCIETIES AND ACADEMIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Sixth Meeting of Session 1848-49. February 13, 1849.
J. M. Arnott, Esq., F.R.S., President, in the Chair.

Exfoliation of the Anterior Arch of the Atlas. By Robert Wade, Esq., Surgeon to the Westminster General Dispensary. The subject of this affection (aged thirty-five) first came under the author's notice, at the Westminster Dispensary, in October 1845. He then had a large sloughy ulcer occupying the back of the pharynx, at the centre of which, dead bone could be felt with a probe. He had previously suffered from extensive exfoliation of the upper jaw, and had lost one of the spongy bones. Twelve years had elapsed since he had primary venereal disease, for which he was salivated, and was again subjected to the influence of mercury, by fumigations, for ulcerated throat. A course of iodide of potassium in sarsaparilla re-established his health for a time, but his throat again became sore two years afterwards. The same treatment was resorted to repeatedly, with varying success. Latterly he had suffered from pain in the neck, and from attacks of muscular rigidity in the same part. In one of these spasmodic attacks, he had been alarmed by feeling something give way in the back of his neck, "with a loud crack, like the report of a pistol." On looking into the mouth, some coagulated blood was seen adhering to the ulcer. After this, the spasmodic attacks became less frequent and severe; and, at the expiration of five months, a small portion of bone was seen projecting into the pharynx. With very little difficulty, Mr. Wade removed the greater part of the anterior arch of the atlas, with the entire articulating surface for the odontoid process of the axis. Caution was enjoined for a time, and the patient was enabled to resume his usual occupation in three months. The throat, however, has continued, from time to time, to be subject to attacks of ulceration. The power of rotating the head is now nearly perfect; but he has a catching pain at the back of the neck when he attempts to bend his head forwards.

Mr. P. Hewett said, that having seen upon the list the title of Mr. Wade's remarks, he thought it would be interesting if he brought forward the two specimens he had had for some years past. The one was a case of extensive exfoliation of the anterior arch of the atlas, in which the same symptoms were apparent as in Mr. Wade's case. They both took place after attacks of the venereal disease, in which the patients had been subjected to a mercurial course. During the time of the exfoliation, in the latter case, the patient suffered excruciating pain, and, whenever there was an attempt to examine the throat, the man always held his head between his hands, and, indeed, had great difficulty in moving it at any time. The head was kept in a recumbent position for some time after the removal of the bone, and the patient ultimately left the hospital quite well. Nearly two-thirds of the articulating surface which receives the odontoid process was exfoliated, leaving about one-third for the support of the head. Both exfoliations took place in 1810, and were recorded in the *Medical Gazette* for 1835. They both left the hospital well.

Mr. Wade said, that in his patient, the power of moving the head in the direction of the chest was very limited; perhaps only to the extent of half an inch.

Pathological Researches into the Diseases of the Ear. By Joseph Toynbee, Esq., F.R.S. This paper contains the results of 915 dissections, which are classified as follows:

Ears of persons known to be deaf	184
— persons supposed to be deaf	70
Ears in the stage of incipient deafness	358
— a healthy state	303
	915

The author enters upon an examination of the state of each of the structures composing the organ of hearing. The most frequent pathological condition of the *membrana tympani* consists in a thickening of its internal and middle layers, the deposit in its substance of calcareous matter, its adhesion, with or without the presence of membranous bands, to the inner wall of the tympanic cavity, and the destruction of more or less of its substance by ulceration. In the *tympanic cavity* the diseases most frequently present are a thickened state of the mucous membrane,—membranous bands which connect together the ossicular deposits of mucous, purulent, scrofulous, and calcareous matter. Anchylosis of the stapes to the fenestra ovalis occurred in twenty-six instances. One of the interesting results of these dissections is the rarity of disease in the Eustachian tube ; in the 612 dissections of diseased ears, only twenty-one disclosed traces of disease in that portion of the organ of hearing. The author pointed out the agreement that exists between the diseased conditions described, and the history and symptoms of deaf patients during life ; and expressed his conviction, that when rational plans of treatment, founded upon pathological research, are carried out by intelligent medical men, this branch of surgery will be rescued from the odium which at present justly attaches to it. [We hope, when this paper is printed entire, to present our readers with an analysis of it.]

Scarlatina. Dr. Webster was anxious to hear the opinion of members as to the treatment they had pursued in Scarlatina, now so prevalent. With regard to himself, he had not had so much experience as formerly, from the circumstance of his not being attending physician of any institution. Certainly, what little he had seen, convinced him that the present epidemic required very different treatment from that which was formerly pursued. Formerly, the treatment had been antiphlogistic. From what he had heard, they now required to support the system, and, so far from bleeding the patient, for every one now bled, there were from twenty to thirty formerly. The treatment, he understood, was to give tonics, bark, port-wine, and even brandy. The disease had been very prevalent, and very fatal. So far as his knowledge went, the only parallel period, in which the epidemic was so fatal, was more than a hundred years ago. In 1747, he believed that one of every two affected with it died. He thought it was the most serious disease they had had lately to deal with. The mortality in the fever hospitals was sometimes only one in forty. Now, according to the paper of Dr. Miller, read at the last sitting, the present mortality from Scarlatina was one in seven.

Dr. Gregory was not present when Dr. Miller's paper was read. He regretted his absence exceedingly, because he wished to have heard whether Dr. Miller made allusion to a phenomenon, of which he had seen only two instances, and on which he was anxious to gain some further information. He meant Scarlatinal Convulsions. He had not seen that matter treated of at length, though he had observed in the journals occasional allusions to cases. He was anxious to know whether it, like scarlatinal dropsy, was an occurrence often met with, and whether any gentleman had formed an opinion as to the nature of the convulsions. A case occurred at Chelsea, in the son of a Mr. Goodman. The convulsion came on very suddenly, and no infantile convulsions, or those incident to more advanced life, ever equalled them. They lasted from an hour to an hour and a quarter. He felt at once, that there was only one thing could be done, which was to bleed largely. The boy was twelve years old, and he bled him most profusely, taking from

eighteen to twenty ounces from him ; with that, the convulsions ceased ; he gradually recovered, and is now perfectly well. The whole family of nine had the disease, and the second who took the scarlatinal convulsions he treated in the same way, with but very small prospect of success, as they assumed a very different appearance. That was the oldest girl of the family, who bore the bleeding badly, and died. He opened the body, and found sufficient to account for death. These were the only two cases which he had seen. He had had a series of similar cases sent to him by Mr. Ward. He was anxious to know whether it had been prevalent during the late epidemic, and what mode of treatment had been found most beneficial.

Dr. Baly inquired if, in both children, there had been dropsy ? If so, he should consider that the convulsions were secondary effects, depending on the dropsy, and arising from urea in the blood. If the convulsions occurred during the eruption, they might have arisen from the poison of the disease. Dr. Gregory said, in both of the cases the disease had advanced, the one to the thirty-seventh and the other to the forty-fifth day, and in both there was a disposition to dropsy. They were under his own care, in connexion with Dr. J. Johnson. He believed that the convulsions, like the dropsy, formed part and parcel of the disease. He did not know the condition of the kidnies. He had heard of convulsions occurring as early as the seventh or eighth day, but he had never seen such.

Mr. Rogers had met with two cases lately of scarlatinal convulsions, both occurring after the twenty-first day, when dropsy was still existing. The children suffered from albuminuria. The course adopted was cupping over the loins, and dry cupping to the nape of the neck ; they recovered. The treatment in the beginning was antiphlogistic. In the present epidemic, he found that much caution was required, the patients requiring to be supported in every case by tonics, for some time afterwards.

Seventh Meeting of Session 1848-49. February 27.
J. M. Arnott, Esq., President, in the Chair.

Reports and Statistical Tables of the Cases at the Cholera Hospital of St. Giles in the Fields, in 1832. By the late Richard Pinckard, M.D. Communicated, with Explanatory Remarks, by J. S. Streeter. Cases of Asiatic Cholera appeared in the parish of St. Giles in the Fields in the commencement of 1832. A Cholera Hospital was established for their reception, and placed under the superintendence of the late Dr. Pinckard and Mr. Walker.

Between the 15th of February and the 29th of May, a period of fifteen weeks, 131 patients were received into the Hospital, or treated at their own habitations. The first table gives the number of cases admitted, and the number of deaths, in each of these fifteen weeks. The average number of cases per week was about 9 ; the number of deaths about 4·5. The total number of cases was 131 ; and of deaths, 69. No cases were admitted between the 29th of May and the 26th of June, when the disease re-appeared. During the succeeding sixteen weeks (from the 29th of June to the 16th of October), as is shown in the second table, 394 cases were admitted, and 182 deaths occurred ; the average of cases per week being 26, and of deaths, 12. The third table gives the duration of the cases, whether fatal or not fatal. The fourth table gives the number of deaths and recoveries amongst patients of different ages, and of either sex respectively. The proportion of recoveries was, in both sexes, the same, but varied much according to the age of the patients ; being highest between the ages of 10 and 20,—lowest in the most advanced period of life. In the fifth table, the cases preceded by diarrhœa are distinguished from those not preceded by that symptom ; and the proportion of recoveries is shewn to have been much greater amongst the cases of the former class. In the sixth table, 124 cases, observed during the spring months, are divided into those admitted "in the

stage of impending collapse," and those admitted "in the state of actual collapse"; and the proportion of deaths and recoveries in each of these classes of cases is shown; the numbers of the patients recovering, "with fever", and "without fever", as well as the numbers dying, "in collapse", "in re-action", and "in fever", being likewise specified. The seventh table gives the same facts with respect to 381 cases which occurred in the autumn; and the eighth table is a summary of the same facts, with respect to the whole number of 505 cases. It is shown, that of 237 admitted in the state of "impending" collapse, only 34 died (21 in collapse, 7 in re-action, and 6 in fever), while 203 recovered (175 without fever, 28 with fever); and that, of 268 admitted in the state of actual collapse, 219 died (195 in collapse, 15 in re-action, and 9 in fever), while only 49 recovered (27 without fever, and 22 with fever).

The President observed, that now was a good opportunity for gentlemen to make communications on this most interesting subject.

Dr. Peacock had recently had his attention attracted to the subject under discussion, in consequence of the children of the Holborn Union, removed from Tooting, having been sent into the Royal Free Hospital. In all, 155 children were received; and of these, eighty-four were more or less indisposed. Nine only, however, presented decided symptoms of Cholera; thirty others had severe diarrhœa, vomiting, and prostration; and the remainder had only diarrhœa. The attack was not preceded by any marked premonitory symptoms, and was ordinarily sudden. The children were observed to droop, and after one or more of the usual rice-water evacuations, and some vomiting or retching, they went rapidly into the stage of collapse. In one case, the symptoms were most marked in less than half an hour after the seizure of the child. In all the cases, however, there must have been an entire emptying of the contents of the alimentary canal, before the serious symptoms supervened; and this seemed generally to have taken place during the night, while the vomiting, and other urgent symptoms, did not occur till the morning. Of the cases characterized by severe vomiting and diarrhœa, two only subsequently passed into the algide stage. Though, from the youth of the patients, it was difficult to speak positively on this point, the urine was believed to have been entirely suppressed, in all the fatal cases, for some time before death. Cramps occurred in only two cases. The disease proved fatal in four cases, death occurring, in these, in five, six, eight, and sixteen and a half hours from the accession of the serious symptoms. On post-mortem examination, the appearances detected were those which ordinarily characterize Cholera. The severe cases among the children were so rapid in their progress, that it was of great importance to ascertain the period of first accession of the symptoms; and with this intention frequent examinations were made. The cases which were seen at their commencement in no instance passed into the stage of collapse. In the algide cases, the greatest reliance was placed upon the application of heat and moisture to the surface. The patients were wrapped in blankets wrung out of hot water, and on which turpentine was sprinkled; hot bottles were then placed in different parts, and the child was again wrapped in dry blankets. They were then allowed to drink freely of cold water, generally containing a small quantity of brandy. Stimulating and anodyne liniments and sinapisms were also employed. In one case galvanism was applied, with the most beneficial effect. A girl of eight years was apparently dying: she lay insensible to what was passing around her; her breathing was very imperfect, and the pulse imperceptible at the wrist; and a thermometer under the tongue indicated only a temperature of 88°. Slight shocks were passed, at short intervals, for about a quarter of an hour, from the side of the neck to the epigastrium, with the view of stimulating the diaphragm through the medium of the phrenic nerve. Immediately on the application she opened her eyes, and complained of the pain; she breathed more fully; the pulse again became perceptible; and the temperature rose to 92°. She gradually rallied, and was well in a few days. This child's

life was, to all appearance, saved by the galvanism ; but in another case in which he had tried it, while some benefit resulted, the improvement was only temporary.

Dr. Peacock said, before his recent experience he had been inclined to the view that Cholera was *never contagious ;* but he was now compelled to believe, that however it might *ordinarily spread,* it was capable of being, under favourable circumstances, propagated by contagion. The children from Tooting were sent into the hospital on the 5th of January ; and on that evening, and on the 6th, 7th, and 8th, about fourteen women, and four male attendants, were sent to take charge of them ; the number of persons who, during the first fortnight, were directly in communication with the children, being probably about twenty-five or thirty. On the 13th, a man who had been sleeping in the boys' ward was seized with symptoms of Cholera, and died of the disease in the Holborn Union ; and from this time to the 21st, eleven other male or female attendants were attacked by the epidemic ; and of these, one died with all the symptoms of algide Cholera. Of these cases, all were of a serious description ; and of the other regular attendants on the children, one only escaped entirely all symytoms of the disease. During the same period that, as now stated, twelve out of eighteen or twenty of the regular attendants on the children were thus suffering in the part of the building appropriated to them, there were at least fifty or sixty other persons in wards not many yards removed from the others, but which had little or no communication with them, who had no symptoms whatever of the disease. The case Dr. Peacock regarded as strongly supporting the view of Cholera being capable, under certain circumstances, of being diffused by contagion, or, more properly speaking, by infection. But the case was yet stronger than this : from the first that the children were in the hospital, free intercourse existed between the Holborn Union house and the wards. Several nurses, after being a few days in the hospital, returned to the union ; and men, who slept at night in the union, were all day in the boys' ward. On the 13th—on the same day that the man before referred to was seized—another man was taken in the union with Cholera, and died ; and, from this time, Dr. Peacock understood that many deaths from Cholera had occurred in the establishment.

Dr. Webster. During the twenty weeks ending the 1st of February of this year, the number of deaths in London was only 23,415 ; while last year, it was 29,220, consequently there were fewer deaths this year by 5,805 ; in fact, the mortality was then $24\frac{3}{4}$ per cent. more than now. But the difference is more remarkable as to diseases of the respiratory organs. In the last twenty weeks, the deaths from this cause were 3,689, and in the same period of last year, 8,269 ; consequently, although enhanced by Cholera, there is a diminished mortality of 4,368, or about half ; so that it appears the public health has not materially suffered. Dr. Peacock has alluded to the question of contagion. My opinion, is, however, rather confirmed,—that is, that it is non-contagious. Then there is another point. Is it a new disease ? I do not think it is. I believe it may be traced in the writings of ancient authors ; and my view is confirmed by one, whose opinion ought to carry weight with it,—I mean Dr. Chambers, whose lectures have been recently published.

Dr. Baly alluded to the relation subsisting between the diarrhœa which precedes the collapsed stage of Cholera, and the Cholera itself. Is this "precursory" diarrhœa really a part of the disease—in fact, its premonitory stage? or is it a distinct affection, which merely predisposes the patient to be attacked by that formidable malady ? The former view of the question is the one almost universally adopted. It seems to be further generally admitted, that the full development of the Cholera attack may be easily prevented by administering the ordinary remedies for diarrhœa—opiates and astringents, especially opium with lead—in this premonitory stage. His (Dr. Baly's) own experience of the disease, as it had shown itself in Milbank Prison, did not satisfy him of the

correctness of these views in all respects. He had observed three classes of cases, which differed from each other, in respect of the state of the bowels previous to the full development of the Cholera attack. First, there are those most severe, and generally fatal, cases of the disease, where, in the course of two, three, or more hours, the canal empties itself by two or three free fæculent evacuations, and then the stage of complete collapse suddenly supervenes. In a second class of cases, the development of the disease is more gradual. For one, two, or three days before collapse is established, there is diarrhœa, the evacuations being at first fæculent, then gradually more and more serous in their character, and deficient in bile, till at length they are white or colourless; and this diarrhœa has generally been attended with increasing scantiness of urine, occasional vomiting, and sometimes very slight cramps. Now, in both these classes of casses, the diarrhœa clearly belongs to the Cholera, as much as do the symptoms that mark the stage of collapse. But no fact that had come under his observation led him to believe, that the remedies which check ordinary diarrhœa, arising from irritation or slight inflammation of the mucous membrane of the intestines, exert any well-marked influence over this true premonitory diarrhœa of Cholera. In a third class of cases, looseness of the bowels, more or less severe, presenting nothing unusual in its characters, and from time to time checked by remedies, has existed for some days, perhaps weeks, and then a change in the symptoms has taken place; the evacuations have become serous; sometimes vomiting has occurred; the skin has become lax, the countenance depressed, and in a few hours, or in a day or two, the Cholera collapse has followed. Now, in these cases, it has seemed to him, (Dr. Baly,) that the first diarrhœa, which existed so long, and showed itself amenable to ordinary remedial agents, was to be regarded, not as part of the Cholera, but as a distinct affection, which had rendered the patient susceptible, or more susceptible, of the Cholera poison. If ordinary diarrhœa has this predisposing influence, (and that it has he did not doubt,) the importance of checking the complaint as early as possible could not be denied. In this way Cholera may be, and (Dr. Baly believed) has been prevented. But still the cases of this kind are not, according to his observation, sufficiently numerous to explain the fact, that the prevalence of Cholera in a particular locality has sometimes undergone a great and almost immediate diminution, on measures being taken to discover every case of diarrhœa amongst the population, and to administer to the persons thus affected, opiate, aromatic, and astringent remedies. It is not yet proved, that more than mere coincidence, has subsisted in these instances, between the adoption of preventive measures and the sudden decline of the epidemic. The history of the disease teaches us, that its prevalence in a particular locality is often, not only of very short duration, but is also frequently as sudden in its cessation as in its rise.

With reference to treatment, he could not boast of greater success than others who had had to deal with this formidable malady. *The system is poisoned;* and till we discover a specific which shall neutralize the morbid poison, we must treat the effects it produces in the body, just as in typhus fever we treat merely the effects of the typhus poison. But in Cholera, we are at a greater disadvantage than in typhus, inasmuch as the effects of the typhus poison are in great part local inflammations, which may be moderated by remedies with which we are familiar. The system in typhus, though depressed, answers more or less readily to the influence of stimulants, and nourishment can be introduced into the bloodvessels; while in Cholera the local effects are such as we know not how to control, the strongest stimulants have comparatively little influence in rousing, and the natural process by which nutriment is conveyed into the blood is interrupted. He (Dr. Baly) had tried the various known remedies and plans of treatment that had been recommended, but with results so little satisfactory, that he was almost disposed to say (though it must be understood with some limitation), "the less that is done for the patient, the better his chance of recovery." Some of the

more energetic methods of treatment tended to hasten the fatal termination. Much good, however, was to be done by milder measures. Warmth externally applied, since it is favourable or necessary to the organic chemical functions naturally going on in the body, is important, aiding the system to resist and throw off the poison. But the degree of heat should be moderate, for too much heats the body, but does not effectually rouse the vital powers. The free administration of cold water was indicated, not only by the thirst, but by the known state of the blood ; for this fluid is drained of its watery part, and till water is supplied to it, cannot serve its all-important purposes in the body, and can, indeed, scarcely circulate. He gives water, then, with a hope that a part may enter the bloodvessels, and not with the object of exciting vomiting. As a mere palliative, chloroform had been most serviceable. Administered by inhalation, it immediately relieved all pain and spasm, and sometimes for a time checked the vomiting. The comfort it in some cases afforded, was most remarkable. A small portion of port wine was generally added to a part of the water given to drink, but whether it exerted any influence for good or evil, was doubtful. In some of the milder cases, a large blister had been applied over the abdomen, and this appeared in some instances to cause an early restoration of the urinary secretion. Dr. Baly had employed the injection of saline fluids into the veins in six cases, but in no case with the result of saving the patient. The first effect was, in some instances, as remarkable as the cases treated in Edinburgh, in 1832. The breathing, which had become spasmodic and interrupted, became regular and free ; the pulse returned ; the natural colour and warmth of the surface were restored, etc.; but in a short time the collapse returned, and although a fresh revival of the system was produced by the injection of a fresh quantity of saline fluid, the patient ultimately sank and died. The salts used were, in some cases, the chloride of sodium, with carbonate of soda ; in others, the chloride of sodium, with phosphate of soda. This method of treatment, if improved, might eventually prove highly useful, but the results of experience were at present unfavourable. He had tried large doses of calomel, and in one case gave five doses of ten grains in each, and five doses of a scruple in each, but no perceptible effect on the course of the disease was produced. After death, the greater part of the calomel was found enveloped in mucus in the stomach : a small portion only had passed into the duodenum.

Dr. Copland, in 1831, had had free access to the reports on Cholera, sent by surgeons in India to the directors in London, from the year 1817 to 1828. Their perusal had convinced him that the disease was infectious. Whatever were the conclusions arrived at by the various authors of these reports, the facts were undoubtedly in favour of infection. Dr. Copland referred to the labours of Sir William Pym, and his recommendation to the Board of Health in 1832, of isolating the infected persons. Dr. Copland believed that this proceeding was the cause of the then comparative small mortality. When the disease did spread, it was from overcrowding, and the visiting of the sick by their neighbours. In the Irish and Scotch fishing villages, the disease had spread in a direct ratio to the communication between the sick and the healthy. He had, in 1832, recommended the application of hot wet blankets sprinkled over with turpentine. This plan he still approved in infants and young persons, but in the stage of collapse in old persons it was not of much service. From the few trials he had made of Stevens's plan of treatment by salines, he was convinced it merited a more extensive employment.

Mr. Busk had not seen much of the disease since October, when about forty persons affected with it were admitted on board the *Dreadnought*. Of these, twenty-one died. The disease had been remarkably fatal, seeing, that with the exception of six persons, all the patients had been strong, healthy men, living on wholesome food, and not subject to privations. The six alluded to had been in the hospital-ship for six months previously. He had seen much of the disease in 1832, in the same class of men. The present disease was of

a different type to that, for in the present epidemic, the greater number, indeed all but six, had died, not in the stage of collapse, but of some consecutive affection—not fever, but a kind of oppression and coma, which presented themselves after the patients appeared convalescent. These symptoms were almost invariably attended by suppression of urine. The coma was, doubtless, the result of urea in the blood. He had also observed that the collapse varied from that of the former visitation ; the cramps were not so severe, and though the surface was very blue, it was not so cold. The heat of the body was also easily restored, by the application of warm blankets, etc., to a temperature of 90°, whilst a thermometer placed under the tongue did not rise beyond 78°. In the late cases, perspiration had been entirely absent, whilst in 1831-32 it had been enormous ; there was also less shrinking and collapse of the features. The duration of the disease was longer in this than the last.

From his own experience he should say, that in neither epidemic had medicine had any control. The only exception to this was that chloroform, whether applied externally or given internally, had a most beneficial effect in relieving the spasms and cramps. It had seemed to him that the principal force of the disease had fallen on the kidney, and that the restoration of the secretion of this organ would prevent a fatal result ; but then, no remedies applied for this purpose had been of any avail. It was observed, that after the urine had been suppressed, the first water passed afterwards was always albuminous, and accompanied by casts of the tubuli uriniferi, showing that the epithelium lining them had been thrown off. On this occasion he should say that the disease was one of the kidneys as much as of any organ. He had noticed a symptom in the late epidemic, which, when present, had invariably proved fatal ; viz., a discharge of blood from the intestines. After death, in these cases, considerable patches of ecchymoses were discovered in the large and small intestines. In these cases the mucous membrane, after a time, became gangrenous. He showed some morbid specimens of the disease.

Mr. Streeter had been present in two instances, where the injection of saline fluids into the vein of the arm was practised in the St. Giles's Hospital, but in both cases without the slightest alleviation. He had seen the warm bath, the hot-air and spirit-vapour bath, by means of the basket apparatus, under the bed-clothes, employed without producing the slightest reaction. He had employed mustard extensively over the skin of the abdomen, chest, and limbs, and although its specific action on the skin followed, it failed to arrest the progress of the collapse ; nothing but vomiting, recurring at intervals, retarded or removed that. He had seen phosphorus employed, and in two instances had found the pills in the bodies after death. In one, a rapid case, they had not passed the stomach. In the second, a protracted case, one of the pills was found, curiously enough, in the appendix vermiformis. The premonitory diarrhœa he had not found to yield to simple and ordinary remedies. During the prevalence of Cholera, every bowel complaint should be regarded as premonitory, and receive the most active treatment. His usual remedies were, superacetate of lead, powder of opium, calomel, and capsicum, of each one grain in a pill, to be administered after each action of the bowels, with a dose of acetate of ammonia and nitric ether. In conclusion, he would observe that he felt assured of the infectious nature of Cholera, and believed that it was very frequently communicuted by the medium of clothes, as well as by personal exposure.

Dr. Garrod, on being called upon by the President to give the Society the results of his researches into the condition of the blood in Cholera, stated that in general they accorded very much with those of Dr. O'Shaughnessy, made during the epidemic in 1832. Dr. Garrod had always found, that the blood in Cholera exhibited characters different from those which presented themselves in any other disease. [Dr. Garrod's extremely valuable and accurate researches on this important subject, we have been favoured with for publication, and they will appear as an original communication in our next Number.]

ANNIVERSARY MEETING, MARCH 1, 1849.
J. M. ARNOTT, ESQ., PRESIDENT, in the Chair.

ANNUAL REPORT OF THE PRESIDENT AND COUNCIL.—The President and Council have to congratulate the Society on its continued prosperity. The number of Fellows is now larger than at any previous period; and the income of the Society during the past year, as for several preceding years, has exceeded the expenditure.

The total number of Fellows on the 1st of March, 1848, was five hundred and eighty-eight. The number of those who, in the course of the past year, have, from death and other causes, ceased to be Fellows of the Society, is twenty-two; while thirty-two new Fellows have been elected. At the present time, therefore, the Society is constituted of five hundred and seventy-eight Fellows; thirty-one of whom are honorary, and five hundred and forty-seven ordinary, Fellows. Of the latter number, three hundred and one are resident, and two hundred and forty-six non-resident.

The following table shows the total number of Fellows (Ordinary and Honorary) constituting the Society, the number of those paying annual subscriptions, and the financial state of the Society in each of the six years from the 1st March, 1843, to the present time.

The Years.	1843-4.	1844-5	1845-6.	1846-7.	1847-8.	1848-9.
Fellows in August, including Hon. Fellows.	501	512	522	534	559	578
Fellows who have paid the Ann. Subscription.	235	250	266	267	273	284
Ann. Subscrip. Admis. and Composition Fees.	£ s. d. 973 7 0	£ s. d. 995 8 0	£ s. d. 1020 12 0	£ s. d. 1048 19 0	£ s. d. 1099 7 0	£ s. d. 1102 10 0
Sales of Transactions, etc. and Interest.	109 18 10	117 17 11	132 19 5	160 7 8	123 16 8	103 19 9
Total Income.	1083 5 10	1113 5 11	1153 11 5	1209 6 8	1223 3 8	1206 9 9
Total Expend., exclusive of purchase of Stock.	954 14 1	848 1 10	976 8 4	944 6 11	877 0 2	1104 9 10
Amount of Stock purchased in each year.	100 0 0	300 0 0	200 0 0	250 0 0	350 0 0	500 0 0
Stock in the Funds at the close of each year.	1100 0 0	1400 0 0	1600 0 0	1850 0 0	2200 0 0	2700 0 0

From a statement given of the disposal of the Society's last year's income, it appears, that of the whole sum of £1,514. 2*s*. 4*d*., nearly one half, namely, £639. 13*s*. 5*d*., has been added to the property of the Society; £409. 12*s*. 6*d*. having been expended in the purchase of £500. Stock in the Three-per-Cents. Reduced, and £201. 10*s*. 10*d*. in additions to the Library; while the current expenses have amounted to £537. 14s. 9*d*., the incidental expenses to £77. 7*s*. 2*d*., and the expense of printing and publishing the 31st Volume of the "Transactions" to £260. 7*s*.

The mode of dealing with PAPERS has been under the consideration of the Council; and it has been decided, that, with the view of eliciting from Referees an explicit statement of the grounds on which Papers are recommended for publication, or the contrary, the letter accompanying each paper

referred shall for the future direct the attention of the Referee to the following points :—

1. The suitableness of the subject for admission into the "Medico-Chirurgical Transactions."

2. The novelty or interest of the facts or reasoning.

3. The length of the Paper, considered in relation to the importance of the subject of which it treats.

4. The propriety of printing the Paper "entire," or only "in part."

At the last General Meeting of the Society, the President announced that the Council had resolved to render the Library as perfect as possible in all its departments, and that a large Committee of Fellows of the Society had lent their aid to the Librarians for the furtherance of this object, but had not then completed their labours. This Committee, in the course of last year, furnished the Council with lists of the works in which the Library appeared to be deficient, and subsequently prepared a select list of the newer and more important works, the immediate purchase of which was thought desirable. The estimated cost of these selected works (432 in number) having been ascertained, their immediate addition to the Library was determined on, and the greater number of them have already been procured. The Council have it in view to purchase, likewise, the other works recommended by the Committee, which amount to upwards of 2000 : and have, with this object, taken measures to learn the prices, at which they may severally be obtained in this country and abroad.

A new Supplement to the Catalogue, including all the works added to the Library in the course of the last two years (828 in number), has been prepared by the Librarians, and printed, and is ready for distribution amongst the Fellows. The total number of independent works in the Library is now 13,926 ; the number of volumes being about 20,000.

The Society's lease of their present apartments extends to Michaelmas 1855, but is terminable at Michaelmas 1850 : and the Council have had under consideration, whether the Society should remove to more commodious premises elsewhere, or should, by a new arrangement with their landlord, obtain additional rooms in the present house. The Council have satisfied themselves that it would be exceedingly difficult to procure other suitable premises : and have ascertained that the landlord, from whom the existing lease is held, is willing to transfer to the Society his interest in the entire house, which extends to 1861, for a yearly rent of £210. They have, therefore, adopted the following resolution, which is now (in accordance with the bye-laws, chapter 18) submitted for the sanction of the Annual General Meeting of the Society :

"That it is expedient to enter into arrangements for the purpose of obtaining, at a rent of £210. per annum, the whole house in which the Society at present holds apartments." This resolution will be considered at a special meeting on the 1st of May.

President's Address. The President briefly addressed the Society respecting the following Fellows who had died during the past year. Dr. Nelson, one of the founders of the Society in 1805, had lately died at Tunbridge Wells. Mr. Page Scott had joined the Society in 1821 ; he was originally a partner with Dr. Rigby, of Norwich, and for some time surgeon to the Hospital and Castle in that city. He had for many years a most extensive midwifery practice, and was the author of a paper on Rupture of the Uterus. Dr. Wm. Campbell had been in the prison at Verdun until after the disaster of the French at Moscow. He afterwards graduated at Edinburgh, and became a teacher and practitioner of midwifery in that city ; he had formed a valuable museum. Mr. Crowfoot, of Beccles, was a pupil of Cline and of Cooper, and was an active and zealous member of the profession, to the literature of which he had contributed. He was mentioned with commendation by Sir A. Cooper, in his work on Dislocations. He died of malig-

nant typhus fever, consequent upon a dissection wound. Mr. Charles Lewis Parker entered the Society in 1843. He was educated at the Charter House, Wadham College, Oxford, and St. Bartholomew's Hospital. He was surgeon to the Radcliffe Infirmary, Oxford, and he died of a low fever at the early age of thirty-seven. Dr. Clendinning was a native of the county of Mayo, became a fellow of Trinity College, Dublin, and took a degree at Oxford. He was elected Physician to the Western Dispensary in 1828, and to the Marylebone Infirmary in 1834. He was elected F.R.S. in 1841; he had been Secretary, Vice-President, and Trustee to the Society.

Election of New Office Bearers. Dr. Webster, who had previously requested permission to address the Society, was informed by the President that he could do so. He said, he rose to address a few remarks to the Society, in consequence of some rumours prevalent amongst several Fellows, who thought themselves aggrieved, because their own names had never appeared in recent house-lists for election into the Council. He considered it better to state publicly that such feelings existed, than to leave dissatisfaction to continue; for if any grievance really prevailed, when it was mentioned, the cause would, doubtless, be removed—and if unfounded, no refutation was necessary. In coming forward, on the present occasion, he (Dr. Webster) was actuated only by a desire to support the character of the Society. Having been already on the Council, entertaining no desire at present to be again in office, he assured the meeting that the sole reason influencing him to make any remark was, that future Councils might know the opinions entertained by some Fellows in regard to the usual mode of electing the officers of the Society, as likewise of appointing the Committee of Referees. He would much regret if his remarks should hurt the feelings of any gentleman now recommended for election; many of them were his personal friends, and for whom he entertained great regard; but on the present occasion he spoke purely on public grounds, and without reference to private friendship. Looking, therefore, impartially at the house-list recommended for election as the future Council, amongst the twenty-one names it contained, fourteen, or two-thirds, were officers of hospitals, whilst two hospitals actually monopolized six of these gentlemen, viz.: the schools to which the secretaries were attached, there being three members from each. Nine of the new Council had been previously in office, five were junior Fellows, elected in 1840, or more recently, and nine had never contributed any paper to the *Transactions*. He (Dr. Webster) did not by any means object to hospital officers being members of the Council,—quite the reverse; but, candidly speaking, a more equal distribution should prevail, as well amongst hospital officers as the Fellows at large; and there should be no monopoly, since the London, the Charing Cross, the Free Hospital, and perhaps others, were passed over at present. Further, on looking at the list of Fellows, recently published, out of the 128 resident Fellows, elected in 1840 and previously, forty-five, or one-third, never were on any Council, although some had been twenty or twenty-five years in the Society. But there was another body, almost of equal importance with the Council, viz., the Committee of Referees, to which he (Dr. Webster) would also beg to allude; and although the members thereof, instead of being elected by the Society, were indirectly nominated by the Council, similar remarks might apply to its constitution. For example—of the twenty-four Fellows composing the Committee of Referees, eighteen were hospital officers; the half of these, or nine, being attached to two schools, one of which happened to be that of the medical secretary; four belonging to St. Bartholomew's Hospital, and five to King's College; eight were junior Fellows elected in 1840, or subsequently; seven never contributed one line to the *Transactions*, and seven had not served on previous committees, where they could alone see the mode in which the Society's business was conducted. According to his (Dr. Webster's) views, the Committee of Referees should be chiefly composed of senior Fellows, who had been previously members of

Council, and especially of authors who had contributed papers to the *Transactions;* because, having themselves gone through the trying ordeal of submitting their own productions to the decision of others, when in turn, acting as judges, they could then more easily understand the feelings and anxieties of parties placed in the same nervous position. He (Dr. Webster) likewise thought no member of the Council should at the same time be placed on the Committee of Referees, as this gave the person so situated double power : first, in giving an opinion on the merits of a paper ; and, secondly, of voting as well as of speaking, in favour of or against its publication, when the referees' reports came before the Council for consideration. A monopoly of offices in any way should be always avoided. Having considered it his duty, as an independent Fellow, to make these remarks respecting the constitution of the house-list for the new Council, as also on the existing Committee of Referees, he (Dr. Webster) would only further observe, before sitting down, that however excellent a library the Society had accumulated, however eminent many of the Fellows were, undoubtedly some being of the highest repute in Europe, and whatever other advantages the Society possessed, its great reputation chiefly depended on, and would always continue, according to the value and importance of their published *Transactions.* For these reasons he (Dr. Webster) considered the fact of having contributed papers to the Society should give the writer a strong claim, not forgetting others, to fill any office in the Society. Indeed this opinion had been often promulgated by one of their late secretaries, whose premature death they now deplored—namely, Dr. Clendinning, and he fully concurred in that sentiment, since it would prove a good stimulus to work. After apologizing for the time occupied with his remarks, Dr. Webster hoped the observations, and the analyses he had taken the liberty of making, would be in due time considered by future Councils in the way such questions deserved, so that any unpleasant feelings which might now exist in the Society would be allayed, harmony be restored, and matters go on henceforward smoothly and satisfactorily. [Dr. Webster, after being frequently cheered during his address, sat down amidst general applause.]

Dr. Baly, who had once or twice risen to object to some statements of the last speaker, but was requested to wait until his conclusion, now said that he had no personal ends to serve, in the office he held. He was only a lecturer at, and not an officer of, St. Bartholomew's Hospital. Since his election, only one referee had been appointed, connected with that hospital.

The President said he had allowed the discussion to proceed so far, but would not permit its continuance. The Council had always endeavoured to do the best for the Society.

The following is the list of the new officers of the Society :—President : Thomas Addison, M.D. Vice-Presidents : Henry Davies, M.D. ; George Burrows, M.D. F.R.S.; George Macilwain ; Samuel Solly, F.R.S. Treasurers : James Alderson, M.D. F.R.S. ; Benjamin Phillips, F.R.S. Secretaries : William Baly, M.D. F.R.S. ; Fred. Le Gros Clark. Librarians : John Hennen, M.D. ; James Dixon. Members of Council : Robert Nairne, M.D. ; William Sharpey, M.D. F.R.S. ; Leonard Stewart, M.D. ; Seth Thompson, M.D.; Charles J. B. Williams, M.D. F.R.S. ; Sir B. C. Brodie, Bart., F.R.S. ; James Bird ; William Fergusson, F.R.S. ; Samuel A. Lane ; James Paget.

The "house list", it will be seen, was adopted in its integrity, but this would perhaps not have been the case, had there been *another list* voted for by Dr. Webster and his supporters. The discussion is certain to do good ; yet, we daresay, all are equally pleased that those nominated by the Council —individually so unexceptionable—should have been elected. It is expected that many subjects of vital importance to the Society (including the method of electing office bearers), will be fully discussed at the special meeting to be held on the 1st May.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Sixth Meeting of the Session. February 21, 1849.

James Syme, Esq., President, in the Chair.

Observations on the Asiatic Cholera as it appeared in St. Petersburgh in 1848. By Dr. Maurice Margulies, Physician in ordinary to his Highness the Grand Duke Alexander, Prince of Hesse.—A translation of this memoir, (from the original French), will be found at p. 620 of the *Edinburgh Monthly Journal* for March 1849.

Malformation of the Wrists and Hands of a Child. Dr. Alexander Wood exhibited a child of fourteen days old, presenting an unusual malformation of both wrists and hands. The thumbs were wanting; the other bones of the hands (both metacarpal and digital) were longer than natural, and the flexor tendons of the wrists were contracted so as to cause great deformity.

The President and Dr. Simpson suggested, that the deformity might possibly be lessened by tenotomy.

Variola in the Fœtus. Dr. Simpson exhibited drawings of two cases of variola occurring in the fœtus, which had fallen under his observation in Edinburgh. In both cases the fœtus had been expelled *dead*, and both mothers had *modified* small-pox. Dr. Simpson entertained some doubts (theoretically) regarding the propriety of vaccinating a woman while pregnant, believing it possible that the mother might be *vaccinated*, and the fœtus *thereby* inoculated with variola.

Singular Spasmodic Action of the Lower Jaw. Dr. Spittal communicated the case of a negro, aged 88 years. On the 2nd February 1848, he laboured under slight bronchitis, with other ailments usually accompanying approaching dissolution from old age. He died on the 10th. On visiting him, Dr. Spittal was struck with a remarkably loud intermittent rasping noise, not unlike the croaking of a young raven. Not knowing whence the sound proceeded, he inquired if such were in the room, when he was informed that the noise was caused by the patient grinding his teeth. It was said, he could not avoid this when awake, unless he forcibly kept his teeth asunder. To avoid the fatigue of this voluntary effort, he was in the habit of interposing different substances, sometimes the bed-clothes, at other times, small, flat, wedge-shaped pieces of wood. The teeth were very much worn down. The habit had existed, more or less, for about sixteen years, and was said to have commenced with rheumatism in the head. The patient had passed a large round worm, after which the grinding had diminished. He had since been occasionally affected with abdominal uneasiness, but passed no more worms. Dr. Spittal stated, that this was an affection such as he had never before met with, or heard of.

Dr. Alex. Wood, who had also known the patient, thought that his disease was simulated.

Dr. Seller remarked, that there could be no doubt that a convulsive action of the muscles of the jaw occasionally took place. He had seen a girl, in whom this followed acupuncture of the chin. A loud, uneasy grinding of the teeth was the consequence; to remedy which, she used to insert the steel busk of her stays, and with it, pull the jaw forcibly down.

APPOINTMENTS.

Baddeley, John Carr, M.D., of Chelmsford, appointed to deliver the Harveian Oration at the Royal College of Physicians, on the 25th of June next.

Desgranges, M., appointed Principal Surgeon to the Hôtel-Dieu at Lyons.

Dick, Paris Thomas, M.D., appointed Physician to the Bedford Infirmary, in the room of Dr. Witt, resigned.

Freckleton, G., M.D., appointed Consulting Physician to the Liverpool Infirmary.

Roux, M. Jules, appointed Professor of External Pathology and Operative Medicine to the School of Medicine at Toulon.

Smith, W., Esq., appointed Surgeon to the Manchester Royal Infirmary.

Thurnam, John, M.D., appointed Medical Superintendent of the Wilts Lunatic Asylum.

Turnbull, James, M.D., appointed Physician to the Liverpool Infirmary, in the room of Dr. Freckleton, resigned.

Ward, Nathaniel, Esq., elected Assistant Surgeon to the London Hospital, on the 7th March.

Williams, R. Lloyd, M.D., appointed Physician to the North Wales Hospital for the Insane.

OBITUARY.

Baird, Robert, Esq., Surgeon, at Kirkliston, near Edinburgh, on the 12th February. Mr. Baird and his sister were both unexpectedly cut off by cholera, during the short, but fatal visitation of that disease in the village of Kirkliston. Mr. Baird was much esteemed as a practitioner, and respected as a Christian, by all classes of the community.

Jackson, Thomas, Esq., Surgeon, in his 79th year, at Market Rasen, Lincolnshire, recently.

Kirkwood, William, Esq., Assistant-Surgeon H.E.I.C.S, Madras Establishment, at Dunbar, Scotland, on the 16th March.

Latham, John, Esq., Surgeon, in his 74th year, at his residence, Wavertree, on 8th March.

Lloyd, Thomas, M.D., at Aberystwith, recently.

Mouat, James, M.D., Surgeon of the 15th (King's) Hussars, aged 57, at sea, on board the steamer Bentinck, on the 21st December, 1848.

Murray, James, Esq., Surgeon, of cholera, at Cairnbrae, Lanarkshire, on the 15th January.

Parkin, Dr., R.N., of Cawsand, in the county of Cornwall, Inspector of Fleets and Hospitals, in his 71st year, at his residence, Woolwich, having served upwards of fifty-three years.

Pennington, R. R., Esq., at his residence in Portman-square, of chronic bronchitis, associated with low fever, on the 8th March. Mr. Pennington, though unknown as an author, was in great repute, and enjoyed lucrative practice. Educated under Pott for the higher departments of surgery, he selected the more laborious career of family practice, for which his intimate acquaintance with medicine, surgery, and midwifery, admirably qualified him. For some years past, he was unable to endure the fatigues of general practice, but was extensively consulted, both in medical and surgical cases. He was 85 years of age at his death; and had been sixty-two years in practice.

Robins, Jacob William, Esq., Surgeon, in his 72nd year, at Worthing, Sussex, on 16th Jan.

Roe, Edward, Esq., Surgeon, in his 49th year, at his residence, Canonbury Lodge, Canonbury-square, London, on the 23rd February.

Stewart, Leonard, M D., aged 51, at his house, Keppel-street, Russell-square, on 26th Feb.

Tessier, M. le Docteur, Physician to the Great Hospital of St. John, at Turin, lately. Dr. Tessier was the author of a book on the use of sulphurous baths in certain skin diseases, and of an account of a case of dissecting aneurism.

Varicas, Robert Abraham, Esq., Surgeon, (late of Woburn-place, Russell-square), at 19, Tonbridge-place, New-road, of consumption, on the 15th March.

White, Anthony, Esq., Consulting Surgeon to the Westminster Hospital, etc., at an advanced age, at his house, 5, Parliament-street, on the 9th March. Mr. White had twice the honour of being chosen to the Presidential chair of the College of Surgeons. In 1848, Mr. White published an interesting pamphlet, entitled, "An Inquiry into the Proximate Cause of Gout, and its Rational Treatment."

BOOKS RECEIVED.

Bouillaud, M., Mémoire sur les faits relatifs à sa Révocation. Paris: 1849. Cooper (White) on Near Sight, Far Sight, and Impaired Vision. London: 1847. Coote on the Homologies of the Human Skeleton. London: 1849. Crichton Institution at Dumfries, Ninth Annual Report of. Dumfries: 1848. Crichton Institution, Report of, during prevalence of Cholera at Dumfries. Dumfries: 1849. Dalrymple's Pathology of the Human Eye. Fasc. I. London: 1849. Hawkins, Hunterian Oration for 1849. London: 1849. London University Calendar for 1849. London: 1849. Maclise's Surgical Anatomy. Fasc. II. London: 1849. Miller (Professor James) on Medical Missions. Edinburgh: 1849. Proceedings of the Birmingham Pathological Society. Birmingham: 1848. Wilson E rasmus) on the Healthy Skin. 3rd Edition. London: 1849.